



3 0144 00134650 1

1

py F532.17/4
V.35



Digitized by the Internet Archive
in 2016



1.6

92

January 1966

Pennsylvania

ANGLER

JAN 1 1 1966

Pennsylvania Fish Commission

100 YEARS

DOCUMENTS SECTION



Fighting for the Conservation of Pennsylvania's Natural Resources

Pennsylvania Fish Commission

Centennial

1866-1966

AS PRESIDENT of the Pennsylvania Fish Commission, I cordially invite Pennsylvanians to help us celebrate our Centennial Year. The 100 years from 1866 to 1966 is a long, long time for any business to survive the world of changes and backwashes of social and industrial upheavals and the distress of numerous wars. Few organizations can boast of such longevity.

The swift-moving events in a fast-moving world since the end of the Civil War when the Fish Commission was born, also swept away forever the last frontiers of unregulated fisheries and fishing as it was enjoyed by the American Indian and early settlers.

The kaleidoscope of the coming and going of the years unfolded the new, often ugly, pattern of what sport fishing was to become. As each new year slid into history, history was continually being made by men in their efforts to turn back the clock to the Colonial days of unconcerned, carefree angling. The polluted tide rolled them all aside and we have only traces of what once was the ideal, the utopia still mourned.

No body of men, no organization in the Space Age of today and in the Age of Infinity tomorrow can ever hope to return to the Edens of yesterday. We can only, as stumbling, fallible humans, seek to keep open minds, clear eyes on our present-day problems and hope we can contribute something worthwhile from our generation to the future. We are urged not to look backward into time because it disturbs our equilibrium, but how can we evaluate the future if we cannot compare it with the past?

In this Centennial issue of the "Pennsylvania Angler" some of the breath of the past is inhaled into words and pictures, faded, frozen in time. With the old is presented the new in the form of a financial and progress report to the fishermen.

While our methods of doing business have changed in 100 years, the old problems are still with us. Our programs largely depend upon Old Mother Nature much as they did in 1866.

The struggle is keener, more intense, with each era. It demands strong, young, vigorous and progressive people to succeed in any business today. We, of the Commission, have reason to believe in our programs, our staff and our workers. They, too, will make their mark on our future history.

ROBERT M. RANKIN, *President*
PENNSYLVANIA FISH COMMISSION

PENNSYLVANIA FISH COMMISSION DIRECTORY

EXECUTIVE OFFICE

ROBERT J. BIELO
Executive Director

GORDON TREMBLEY
Assistant Executive Director

EDWARD R. THARP
Assistant Executive Director
Watercraft Safety

WARREN W. SINGER
Assistant to Executive Director

PAUL F. O'BRIEN
Administrative Officer

JOHN M. SMITH
Comptroller



DIVISION DIRECTORS

KEEN BUSS
Research and Fish Management
R. D. 1—Box 200-C
Bellefonte, Pa.—16823

HOWARD L. FOX
Propagation and Distribution
Bellefonte, Pa., R. D. 3—16823

GLEN SPENCER
Real Estate
Harrisburg

EDWARD MILLER
Engineering
Bellefonte, Pa., R. D. 3—16823

WILLIAM W. BRITTON
Law Enforcement
Harrisburg

ARTHUR BRADFORD
Pathology
Bellefonte, Pa., R. D. 1—Box 200-C
16823

GEORGE FORREST
Public Relations
Editor
Harrisburg



REGION ONE

S. CARLYLE SHELDON Warden Supervisor
Tionesta 16353 Phone: 814-755-8811

REGION TWO

JOHN I. BUCK Warden Supervisor
R. D. 2, Somerset, Pa. Phone: 814-445-4913

REGION THREE

CLAIR FLEEGER Warden Supervisor
351 Terrace St., Honesdale, Pa.,
Phone: 717-253-3724

REGION FOUR

HAROLD CORBIN Warden Supervisor
R. D. 2, Annville, Pa.,
Phone: 717-273-2601, Ex. 86
I. G. M. R. 17003

Pennsylvania Angler

Published Monthly by the

PENNSYLVANIA FISH COMMISSION
COMMONWEALTH OF PENNSYLVANIA

William W. Scranton, Governor



PENNSYLVANIA FISH COMMISSION

ROBERT M. RANKIN, President Galeton
HOWARD R. HEINY, Vice President Williamsport

GERARD J. ADAMS Hawley
JOSEPH M. CRITCHFIELD Confluence
WALLACE C. DEAN Meadville
RAYMOND M. WILLIAMS East Bangor
JOHN W. GRENOBLE Carlisle
DOUGLAS McWILLIAMS Bear Gap
R. STANLEY SMITH Waynesburg

JANUARY, 1966



VOL. 35, NO. 1

Contents

- 2 FISH, FISHING AND FISHERIES OF PENNSYLVANIA IN COLONIAL TIMES
- 8 EARLY FISH HATCHERIES IN PENNSYLVANIA—Alex P. Sweigart
- 14 FINANCIAL REPORT, PENNSYLVANIA FISH COMMISSION, FISCAL YEAR JULY 1, 1964-JUNE 30, 1965—John M. Smith, Comptroller
- 18 WATERCRAFT SAFETY REPORT
- 21 PENNSYLVANIA FISH COMMISSION REPORT TO THE SPORTSMEN
 - 21 Administration
 - 21 Propagation and Distribution
 - 22 Research and Fish Management
 - 24 Law Enforcement
 - 24 Public Relations
 - 25 Real Estate
 - 25 Engineering
- 28 DO-IT-YOURSELF TIP UP

POSTMASTER: All 3579 forms to be returned to Dunlap Printing Co., Inc., Cherry and Juniper Sts., Philadelphia, Pa. 19107.

The PENNSYLVANIA ANGLER is published monthly by the Pennsylvania Fish Commission, South Office Building, Harrisburg, Pa. Subscription: One year—\$2.00; three years—\$5.00; 25 cents per single copy. Send check or money order payable to Pennsylvania Fish Commission. DO NOT SEND STAMPS. Individuals sending cash do so at their own risk. Change of address should reach us promptly. Furnish both old and new addresses. Second Class Postage paid at Harrisburg, Pa., and at additional mailing offices.

Neither Publisher nor Editor will assume responsibility for unsolicited manuscripts or illustrations while in their possession or in transit. Permission to reprint will be given provided we receive marked copies and credit is given material or illustrations. Communications pertaining to manuscripts, material or illustrations should be addressed to the Pennsylvania Fish Commission, Harrisburg, Pa.

NOTICE: Subscriptions received and processed the 10th of each month will begin with the second month following.

Fish, Fishing and Fisheries of Pennsylvania

In Colonial Times

LESS than three hundred years ago the rivers and streams within the confines of what is now the State of Pennsylvania were fairly alive with fish. Shad, herring and other migratory fishes annually ascended the Susquehanna and Delaware rivers and their tributaries in such vast multitudes that, according to one old writer, the still waters seemed to fill with eddies, while the shallows were beaten into foam by them in their struggles to reach the spawning grounds. As the rivers of Alaska are said to be filled today with salmon, so were the Susquehanna and Delaware described to have been with other fishes some two hundred and fifty years ago.

As the rivers were in those days with migratory fish, so were the mountain and meadow streams with trout. Whenever the water conditions were at all favorable, this great game fish lived in countless numbers, and like the shad and other migratory fishes, grew to much larger size than are now commonly found. Even catfish, suckers and other finny members of life in those early days reached a greater fullness of growth.

At that time, the Indians, of what is now Pennsylvania, throughout its whole extent, and indeed, for some distance north, west and south depended almost wholly on the fish supply for food. These people could with much truth be called fish-eaters. Proof of this is found in every ancient Indian village site, where the ashes and charcoal of primeval camp fires have preserved bones of animal food devoured by the redskinned hunters. In every case, no matter whether the village was located beside a large water course or at some distance from it, bones of fishes have been found among the camp fire ashes. Bones of deer, elk and bear, the principal animal food of the Indians, are also discovered in great quantity, but insignificantly so when compared with the number of fish bones found.

If further proof be wanting as to the great dependence on fish, it is found in the ancient shell heaps on the sea coast, the accumulations of the Indians who visited the ocean annually from miles inland for mollusks which they smoked for winter use. Among these shell heaps are discovered numerous fish spears and hooks, together with abundant remains of fishes. Thus, while mollusk gathering was the primary object of the ocean visits, the Indians kept well in mind the value of sea fishes as an article of food.

It is by the remains of bones found in the ashes also that the great size of the fish of those days, as compared with those of the present, can be determined. Bones of catfish and suckers of more than double the size of those



now caught are frequently found, skeletons of trout, which must have weighed when in the flesh from two to four pounds are quite common, and there are no lack of remains of shad which would have tipped the scales fairly at twelve pounds.

As might be expected, depending so largely on this class of food supply, the Indians were expert fishermen. Men, women and children engaged regularly in the calling, not only to supply immediate wants, but for future needs, preserving their stock by sun and smoke curing. John Ogelby, a well-known writer, in treating of the New England Indians says: "In the trade of fishing they are very expert, being experienced in all baits for different kinds of fishes. . . . Since the English came they are furnished with English hooks and lines, for before they made the latter of hemp, being more curiously wrought and of stronger material than ours and hooked with bone hooks. . . . They make likewise very strong sturgeon nets, with which they catch sturgeon of twelve feet or more in length. Their cordage is so even, soft and smooth that it looks more like silk than hemp." The same skill and knowledge possessed by the Indians of New England were had by those in and about the Commonwealth of Pennsylvania, and undoubtedly both were the results of long acquaintance and practice.

Another writer says: "The Indians always carry hooks and small harpoons with them whenever they are on a hunting party; but at certain seasons of the year they go

out purposely to fish, either alone or in parties. They make use of the neat and light canoes made of birch bark . . . and venture with them into spacious rivers."

It will thus be seen that the savages who occupied the soil of America before the white men were no tyros in the art of fish catching. They were learned in all that pertained to it. In the pursuit they used weirs and traps, seines, gill and scoop nets; spears, bows and arrows and gigs; hand, pole and set lines. They even knew how to stupify fish by using intoxicating substances. Besides these things they constructed pens and preserves in which fish could be kept alive until wanted. To the children mainly were left the use of the bow and arrow in fish killing, and in this art, by no means easy of acquirement, they were, according to Loskiel, a Moravian missionary, adept.

These youthful hunters appear to have followed this species of game hunting with the greatest assiduity, for fish arrowheads are found in great abundance in the valley of the Delaware south of Trenton, on the Susquehanna river shores, particularly near Columbia, as well as in and about nearly all the creeks and streams entering these two rivers. While the youngsters eagerly waded the shallow brooks in pursuit of the speckled trout, or sluggish moving sucker, their favorite resorts were the creeks which were affected by the tides. Here, when the water was high the boys and young men were fond of congregating and shooting the river fishes as they swam up to feed. The arrow heads were peculiary adapted to the use for which they were intended, and entirely unlike in shape those used for the killing of land animals. The arrow heads were often as much as five and six inches long and very narrow, and on account of their slender character only the hardest and choicest stone was used.

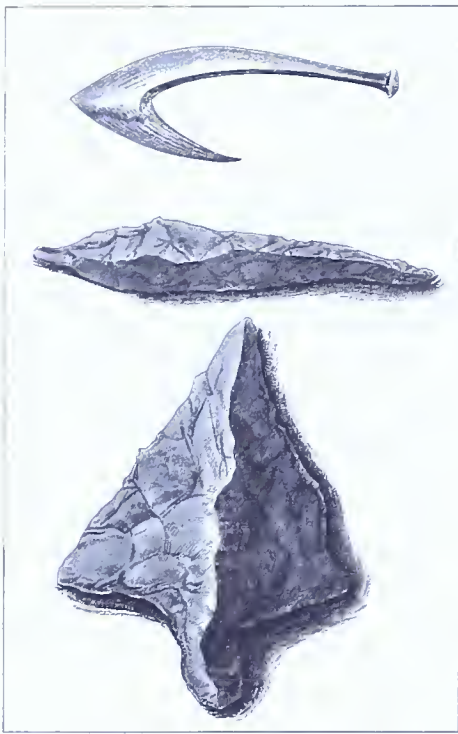
Whenever the streams were shallow, a favorite method of catching fish was by the use of drive-ways. As soon as the shad and herring appeared on their annual journey to the spawning beds no time was lost by the Indians. Large stones were placed close together in the water so as to make a huge V shaped pen, much after the pattern of the brush built drive-ways used by them for capturing land

animals. Then every redskin in the village or villages, if friendly relations were in order, men, women and children fell in line across the river, and moved slowly towards the open end of the drive-way, yelling at the top of their voices and beating the water vigorously with brush, which each were armed with. Affrighted, thousands of fish fled straight to the pen built for them, and when they were well within, escape was barred by a huge net stretched across the entrance. Thus the fish were imprisoned to be slaughtered at leisure by their captors.

In 1680, Mahlon Stacy, one of the first settlers of New Jersey, wrote a letter to a brother in England, in which he gave a somewhat similar method used by the Indians for fish catching . . . "fish in their season are very plentiful. My cousin, Revell, and I, with some of my men, went last third month into the river (the Delaware) to catch herrings, for at that time they came in great shoals into the shallows. We had neither rod nor net, but, after the Indian fashion, made a round pinfold, about two yards over and a foot high, but left a gap for the fish to go in at, and made a bush to lay in the gap to keep the fish in; and when that was done, we took two long birches and tied their tops together, and went about a stone's cast above our said pinfold; then hauling these birch boughs down the stream, where we drove thousands before us, but so many got into our trap as it would hold. And then we began to haul them on shore, as fast as three or four of us could, but two or three a time, and after this manner, in half an hour, we could have filled a three-bushel sack of as good, large herring as ever I saw." . . . And though I speak of herrings only, lest any should think we have little of other sorts, we have great plenty of most sorts of fish that I ever saw in England, besides several other sorts that are not known there, as rocks, catfish, shads, sheepsheads, sturgeons; and fowls plenty."

Seines and gill nets had lead lines made of small, circular, flat stones, having two deep notches to keep the lines from slipping. These "leads" have been found by the thousands in the Delaware and Susquehanna rivers. One of the most curious finds of these relics was made by





INDIAN FISHING IMPLEMENTS

Dr. C. C. Abbott, formerly curator of the Archaeological Department of the University of Pennsylvania, from whom the greater number of the facts contained in this chapter are obtained. Some years ago, in a mud deposit on the banks of the Susquehanna, Dr. Abbott came upon a series of about thirty seine "leads" stretched in an irregular line about eighteen inches apart. From their position and other evidence found in connection therewith, it was apparent that they formed part of a net which had been set and then abandoned.

Ice fishing with gill nets was also a favorite method with the Indians and these were let beneath the ice with wonderful skill and effect.

The best cord with which the nets and fishing lines were made was fashioned from what is termed Indian hemp, botanically known as *Apocynum cannabinum*. It grew in great abundance in the old corn grounds, in woods, on hills and high glades. The stalks could readily be divided into filaments and easily prepared. The net twine was manufactured almost exclusively by the women. They simply gathered a certain number of filaments in one hand and rolled them rapidly upon their bare thighs until thoroughly twisted, locking from time to time the ends with a fresh supply of the hempen fibre. This cord was strengthened and dressed with a mixture of grease and wax and drawn over a smooth groove in a stone.

That gigging and spearing were carried on to an enormous extent is shown by the countless number of spear heads and gig heads found by archaeologists and relic hunters every year. The spears were either tipped with barbed bone or with long slender pieces of chipped stone of a flinty character.

On the gigs the Indians expended a vast amount of time, care and workmanship, for these were as a rule much more delicately chipped than any other implement of their size. Although found in great abundance along the Delaware and the Susquehanna rivers, almost without exception they are of exquisite finish. As the gigs were for the pur-

pose of spearing the larger fish and even sturgeon, and also for the capture of the larger water turtles like "snappers" only the finest stones could be used, thus no fish gigs are found except made of jasper and quartz. It is interesting to note that gigs seem to have been used almost exclusively by the Indians of Pennsylvania and New Jersey; for although plentifully found in both these states, this implement is rarely come upon elsewhere.

Hooks were usually fashioned from bone or stone and occasionally of bird claws (probably of the hawk). So effective were these articles that many white people used them in preference to their own brought from abroad.

The dipsies for hand and pole lines were also very carefully and symmetrically modelled. The most elaborate and handsome were fashioned of hematite and shaped like a common plumb bob. Some had the upper portion grooved and were encased in netting, while others had holes drilled through them and were fastened to the line without the precaution of a net to prevent loss.

Harriot, a writer of 1585, thus quaintly describes the Indian methods of fishing:

"They haue likewise a notable way to catche fishe in their Rivers, for whereas they lacke both yron and steele, they fasten vnto their Reedes or longe Rodds the hollow tayle of a certain fishe like to a sea crabbe, in steede of a poynte, wherewith by nighte or day they stricke fishes and take them off into their boates. They also know how to vse the prickles and pricks of other fishes. They also make weares, with settinge opp reeds or twigs in the water, which they soe plant one with another that they growe still narrower and narrower, as appeareth by this figure. Ther was neuer seene among vs soe cunninge a way to take fish withall, whereof sondrie sorts as they fownde in their rivers vnlike vnto ours, which are also of a verye good taste. Doubtless yt is a pleasant sighte to see the people, sometymes wadinge, and goinge sometymes sailinge in those Rivers, which are shallowe and not deepe, free from all care of heaping opp Riches for their posterite, content with their state, and liuing frendlye together of those things which god of his bountye hath giuen vnto them, yet without giving hym any thanks according to his desarte.

"So sauage is this people and deprived of the true knowledge of god. For they haue none other than is mentioned before in this worke."

Besides telling us how the Indians catch fish, Harriott also tells us how they cook them. He says:

"After they haue taken store of fishe, they gett them vnto a place fitt to dress yt. Ther they sticke vpp in the grownde 4 stakes in a square roome and lay 4 potes vpon them and other ouer thwart the same, the same like vnto an hurdle of sufficient heighte, and lyaing their fishe upon this hurdle, they make a fyre vnderneathe to broile the same, not after the manner of the people of Florida, which do but schorte (schorche) and harden their meate in the smoke only to Reserue the same during all the winter. For this people, reseruinge nothinge for store, thei do broile, and spend away all att once, and when they haue further neede they roste or seethe fresh, as we shall see hereafter. And when as the hurdle can not holde all the fishes, they hange the Reste by the fyrres on sticks sett vpp in the

grounde a gainste the fyres, and than they finishe the reste of theire cookerye. They take good heede that they bee not burnt. When the first are broyled they lay others on that weare newlye brought, continuing the dressinge of their meate in this sorte vntil they thincke they haue sufficient."

The vast abundance of fish in the rivers and streams of the colony of Pennsylvania excited the astonishment of the early European settlers, prepared as they had been beforehand by tales of the multitude of animal life in the new country.

William Penn, in a letter from Philadelphia dated January 9, 1683, to the Duke of York, writes that: "Our rivers have also plenty of excellent fish and waterfowl, as sturgeon, rock, shad, herring, cod fish, flat-heads, roach and perch and trout in inland streams.

The fame of the fishing, especially that of the shad of the Susquehanna, even reached the hardy and thrifty settlers of Connecticut, and many of them left their homes in that part of the country and came to and settled in the picturesque Wyoming Valley, from Wyoming to Tioga Point, now known as Athens. They brought their nets with them and each neighborhood established a fishery for its own accommodation. For a long time the chief food of these hardy people was taken from the river. Soon after their arrival trouble arose between them and the government of Pennsylvania over the right of possession of the Wyoming Valley, and a war was begun, which lasted for thirty years. It was not until after the Revolutionary war when all differences were settled that the fishing industries of the Susquehanna were allowed to be conducted in peace.

The early shad fisheries were not common property. The owner of the soil was the owner of the fishery, and no one was allowed to fish without a permit. When the owners were not using the seines they often hired them out to others and took pay in fish. The seiner's share was always one-half the catch.

The Sunbury Beacon of Monday, April 26, 1830, says: "Not less than from four to five thousand shad were caught on Saturday last within a quarter of a mile below the dam. Upward of 500 were taken by one dip net—and several others averaged two and three hundred each. We understand that several hundred were caught with dip nets yesterday."

As the river was ascended the shad appear to have decreased in number but increased in size. The opinion seems to be general that the great size obtained by the Susquehanna shad was due to the long run up the fresh water stream (carrying the idea of the survival of the fittest); nearly everyone who recollects them insisted on putting their weight at almost double that of the average Delaware shad of today. A Mr. Harvey, speaking of the Luzerne County shad, said, "Some used to weigh eight or nine pounds, and I saw one weighed on a wagger which turned the scales at thirteen pounds."

The price of the shad varied, according to their size, from 4d. to 25 cents, depending of course, upon their scarcity or abundance. A bushel of salt would at one



EARLY INDIAN FISHING METHODS

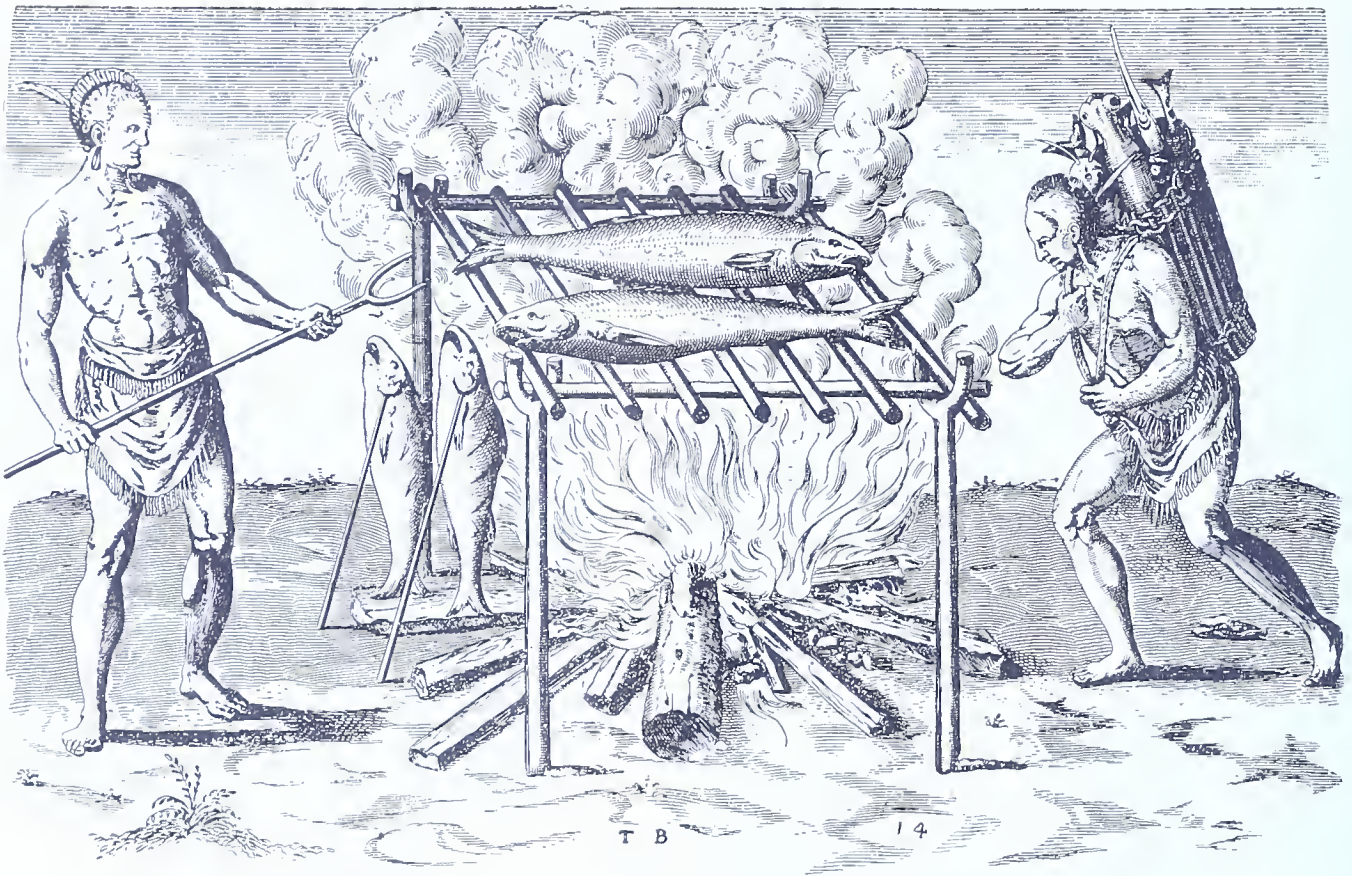
time bring a hundred shad. One gentleman once gave twenty barrels of shad for a good Durham cow.

Every family along the river having any means whatever, had its half barrel or more of shad salted away each season, and some smoked shad hanging in their kitchen chimneys. Country folks from a radius of fifty miles came to the Susquehanna to get their winter supply. People journeyed from the New York state line on the north, and from Easton on the east, at the Junction of the Delaware and the Lehigh Rivers. Among the seekers for this splendid food fish that joined this army were large numbers of residents from and about Philadelphia.

All of these people, or a large portion of them, camped on the river bank, and they brought with them whatever they had of a marketable nature in payment. From the New York line and Easton was brought maple sugar and salt; from Milton, cider and whiskey and a mixture of the two called "cider royal". The Quaker City folks brought leather, iron and commodities of a like nature.

It is unfortunate that, as compared with the Susquehanna river, little is known of the early fisheries of the Delaware, though it was said that the original Dutch and German settlers either did not know of or did not make use of the seine for fish catching until long after the Connecticut colonies in the Wyoming Valley.

However, one of the first stipulations William Penn made with the Delaware Indians at a council held in the forest, was that he and his colonists should have the right to fish in the river Schuylkill. Whatever may have been the amount of fishing in the lower Delaware in the early days of the colony, it appears certain that as much attention was not given it as might have been until the middle of the eighteenth century. In 1764, however, a fish market was erected in Philadelphia, but even then for some time, it is said, not many fish were sold except in cool weather.



In Martin's History of Chester appears the following: "In 1683 it is stated that they (fish) were 'exceedingly plentiful,' and the early fishermen could take 600 at a draught. They were proportionately cheap. Six rock fish could be bought for a shilling; six shad for the same, and oysters for two shillings a bushel."

In the upper waters of the Delaware the earliest shad fisheries seem to have been established somewhere about 1751, and presumably was known as the Point fishery, and was a "day" fishery. That is, contrary to the usual custom, no hauls were made at night.

Mr. William C. Crawford, of Matamoras, in a communication to the Milford Dispatch of November 5, 1891, relates the following method adopted in his early days at the "Yankee" fishery about 1826 and later: "During these years," he says, . . . "the fishing was done in the daytime and thousands were taken at a haul. The fishermen's nets (with ropes) reached across the river where they started, a half a mile below where the Milford bridge stands. The men on each shore walked down, and a canoe that would hold five men, four to pole and one to hold the rope, was at each end, with smaller canoes to watch for hitches, and when opposite the point of the Minisink Island the canoes left the shore and met on the point of the island.

The Delaware fairly swarmed with herring, and there were more curses than blessings heaped on them when a shad net got clogged with the bony little things. But somewhere in the 30's, George B. Mitchell began curing herring. The industry in a short time became a very large one, requiring many hands, for the work was so well done, the herring given such a delicious flavor by Mr. Mitchell's process they became speedily well known all over the United States, and so eagerly sought for that for years it

was difficult to supply the demand.

In those days the herring was also looked upon as possessing considerable medicinal virtues. A salt herring applied to the soles of the feet of a patient afflicted with fever would draw the "humours downward and thereby relieve the head." When taken inwardly it brought relief to pestilential fevers since "it is certain that it dries the stomach exceedingly, causes an appetite and immoderate thirst and settles a subverted and nauseating Stomach." The ashes of the fish cured seatica, dropsy and pains of the throat, and the flesh applied to the wound of the venomous "Pester," "supposed" says a writer of the middle half of that century, "by the ancients to be the fiery serpent of the Israelites," a cure would be effected. Even the bones of the herring finely powdered and mixed with other ingredients was a valuable medicine for fully a dozen dangerous maladies.

A new industry was started in the Delaware River around 1873 in the vicinity of Chester, the catching of sturgeon. For years few people ate sturgeon, though occasionally a family would fry a few steaks and serve them with cream. The roe was considered worthless except as bait with which to catch eels and perch or to feed to the hogs. The sturgeon were taken in long drift nets, made of heavy twine and managed usually by two persons to a boat. These fish weighed from 50 to 100 pounds each. The flesh was shipped to New York daily, packed in ice, and served in the hotels in that city in the form of steaks. Large quantities of it were smoked and in some cases sold as smoked salmon. The roe, or eggs, were sent to Germany and converted into caviar, and often reshipped to this country and consumed generally by the German population.

The Schuylkill River was once a famous shad river, but by 1830, through dams and pollution, the fish no longer went upriver to spawn. The early shad fisheries, however, furnished families along the banks with a large portion of their food supply. Many of the shad were caught in pens, but another method of fishing was also adopted. Racks extending from shore to shore were placed in the stream with their bars so close together that the fish could not pass. The shad crowded against the racks in such numbers as sometimes to push each other out of the water. As many were taken as were wanted, and the rest struggled in unsuccessful efforts to escape the impediment. This plan, though effectual, was very wasteful and destructive, and awakened the angry opposition of those who lived further up the river. These fisheries were the source of continual jealousies and disputes, and their regulation was the subject of much early legislation. Finally, in 1738, the exasperated adversaries up the river organized a force of volunteers, collected a fleet of canoes and set sail intent upon desperate deeds and in the full anticipation of success. They broke the racks away from their moorings and sent them adrift down the stream. The fishermen at first tried to with soft words to stay the destruction, but were unsuccessful. They fled to the settlement and summoned every man who could handle an oar or wield a club. Thus reinforced they returned to the encounter and made a furious assault upon the enemy. The beaten squadron fled rapidly down the Schuylkill and the fishermen returned to their homes. This is perhaps the only Naval battle ever fought upon the Schuylkill.

After the racks had been removed from the Schuylkill, fishing instead of being an occasional pursuit for the whole neighborhood, became a regular avocation, and was conducted by a few skilled persons, who gave their time and attention to it. Pools were cleared away in the River and the fish were hauled into the shore by means of seines.

"The Islands, since they contained the best landing places, grew to be very valuable. Four hundred shad were caught at Long Ford in a haul, which is the largest upon record. Twenty-three hundred were caught in one night at the Island opposite Phoenixville.

In 1820 "there were fisheries at Longaker's Pool, where the railroad now crosses the Schuylkill at the mouth of the tunnel, at Buckwalter's Pool, near Buckwalter's Island; at the mouth of the French Creek, at Long Ford, Green Hill, Perkiomen and Valley Forge. At Buckwalters in 1812, one hundred shad were caught in a seine at one time.

"When Samuel Lane owned the Bull Tavern, he had an arrangement with the fishermen at the mouth of the Pickering, that he was to furnish them each morning with a quart of whiskey, and they were to give him in return a shad weighing eight pounds. The contract was continued for some years with mutual satisfaction. After a time, however, shad deteriorated so much in quality that those of that weight became extremely rare. Finally, one morning the fishermen saw 'Old Sammy' coming along as usual with his quart jug, and, on looking over their captures, no fish of the requisite proportions could be found. In this unfortunate emergency a happy thought occurred to one of them, and, seizing the largest of the fish, he held its mouth

open while a comrade filled in pebbles enough to give it the proper weight. The old man carried it off to his home, saying it was a heavy fellow, but the whiskey contract was afterward abandoned."

One of the most valuable of the shad fisheries on the Schuylkill, near Philadelphia, was at Manayunk. Before the beginning of the present century there had been made in the river, from time to time, a succession of rude dams from one to three feet high. These dams extended only a portion of the way across the river and were intended merely to force the water into a particular channel. Between the island at Manayunk and the western shore was one of these dams, forcing the water into a narrow channel on the eastern side. The fishermen at this fishery used to station their boats with their seine at the head of this island and a man at the lower end to watch the shoals of shad coming up, and when he saw them he would give the signal to the party in the boat, who immediately ran out with the seine, going downward.

Some of the old residents along the Schuylkill river near Philadelphia, relate marvelous tales of the catches of fish to be made in their boyhood days, and some of them almost surpass belief. One of these who spoke in a more moderate strain was Godfrey Schrou, a one-time resident of the Falls of Schuylkill. He related to a friend about seventy years ago, that in his younger days he could often catch with his dip-net 3,000 catfish in one night; the perch and rockfish were numerous and large. Often he has caught 30 to 80 pounds of a morning with the hook and line. Other persons who were neighbors of Mr. Schrou asserted that there was nothing extraordinary in a catch of 3,000 catfish in one night in a dip-net. Up to the year 1817, they say, more than that number were taken repeatedly in the same period of time. It has been claimed that so plentiful were this species of fish, that one scoop of the dip-net has brought up more catfish than could be lifted into the boat by one man. There were said to have been people at the Falls in those days, who, in the fishing season which lasted some three months, made enough by catching shad in a simple scoop or dip-net to support their families in fish for a whole year. In their work they anchored or fastened to the rocks in the rapids, the small boats from which they fished; some of the particular stations were more valuable than others, and there was much rivalry in the early spring who should first get possession of favored spots, which the boat never left during the whole season; if it did, by a rule among themselves, any one else was at liberty to take possession.

The catfish were the kind known as the white catfish, a migrating species that came from the sea annually in immense numbers, so numerous in some instances as to blacken the narrow passages of the river. They came regularly on or about May 25, the run lasting some two or three weeks. They were caught in immense numbers during the season, put in artificial ponds made for the purposes, and taken out as wanted during the summer and fall months. They were delicious eating and the people thereabouts learned the art of cooking them so well that thousands of people were attracted thither, and the fame of the Schuylkill catfish, waffles and coffee became of more than local fame.

• • •

Early Fish Hatcheries in Pennsylvania

By ALEX P. SWEIGART

(Excerpt from the Report of the State Commissioners of Fisheries—
1892-93-94)

"This was briefly the condition of affairs in Pennsylvania about the close of the Civil War: One dam impeded the passage of shad in the Delaware, and others near the mouths of the Schuylkill and Lehigh and on the Susquehanna prevented this food fish from ascending the waters at all. Through these obstructions, destructive fishing and water pollution, the shad fisheries of the Schuylkill and Lehigh were utterly destroyed, the Susquehanna nearly so, and those of the Delaware were run at a loss. The mountain lakes were in a bad condition, and the trout streams generally were either utterly ruined or yielded poor returns. Pennsylvania was not alone in this deplorable situation. The waters of the other Middle states and the New England states were little, if any, better. General alarm was felt, and Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York and Pennsylvania appointed, through the respective legislatures, commissioners to investigate the extent of the trouble and report on the best method of restoring the fishing interests. Pennsylvania's commissioner was Mr. James Worrall, of Harrisburg. His appointment was the result of a convention held at Harrisburg in the early part of 1866. At this convention a law based on a Massachusetts enactment of the year previous was drawn with great care and passed promptly by the Legislature, then in session, and signed by the Governor (Honorable Andrew G. Curtin) on March 30. This law, after reciting that by the construction of a dam across the Susquehanna, shad, salmon and other fish were prevented from passing up the said stream to the great detriment and injury of persons and communities along said river, provided that the several companies owning or interested in dams on the Susquehanna, or in the North or West Branches of the same, between tide-water and Wilkes-Barre on the West branch should, within six months from the passage of the act, erect such under gates, sluices, chutes, or other devices in all dams as would permit the free passage of shad, salmon and other fish up said streams.

"A second section of the law provided that, if the owners of said dams neglected or refused to construct sluices as would allow the free passage of fish up the said river within six months after the passage of the act, they should be liable to a fine of two hundred dollars, to be recovered as debts of like amount are recoverable by law.

"As soon as the act was passed and became a law, Mr. Worrall entered upon his duties and endeavored to enforce its provisions."

MARRED by a slaughter of fish and game unparalleled in American history, the waning years of the nineteenth century served to impress in the public mind a vital need for conservation of our wildlife resources. This was the era of the market hunter and the market fisherman, a period in Pennsylvania when the supply of fish and game was generally believed inexhaustible. Market stalls in Philadelphia and other eastern cities were glutted with furred and feathered game, including the now extinct passenger pigeon, and fresh water species of fish life.

On the Susquehanna and Juniata Rivers and the Delaware, market fishermen plied an active trade with net, spear, and fish basket. Under this intensive system of commercial fishing, even the vast quantities of fish life in Pennsylvania waters showed an alarming decrease. Gradually public sentiment crystallized to the realization that drastic measures to reduce the kill would be necessary, and in 1866, the Fish Commission was created by an Act of Assembly. This first act provided for only one Commissioner to be appointed by the Governor to fill the office. In 1873 the body was reorganized, the number of Commissioners being increased to three. Six years later, three more members were added, the Commission thereafter comprising six members until it was reorganized in June, 1903, into the Department of Fisheries.

During its early years of existence, the Commission had a difficult time in enforcing the fish laws and in other phases of its work. Following is an interesting excerpt from the report of the State Commissioners of Fisheries for 1881:

"These (kiddles or fish-baskets)", the report declares, "as we have shown before, are forbidden in Magna Charta. They were put down with the strong hand by the people in the time of King John, and we believe have never since been allowed in any part of the British Islands. The law in respect to them must be strengthened; they must be declared nuisances and destroyed wherever seen.

"It is due to the Pennsylvania raparians of the Susquehanna that they should be abolished in Maryland, for there is no greater enemy of anadromous fishes than just these vile death-traps. What they cannot take or use for their owners they destroy, so that others cannot use them, and millions upon millions of small fish are caught in them annually, only to be shoveled out into the current—putrid and useless for any conceivable purpose—manure, perhaps, only excepted . . . Fishing associations have recently been springing up all throughout the country, and laboring to bring back to our streams their wonted supplies of wholesome and cheap food. Let these direct their atten-



EASTERN HATCHERY AT ALLENTOWN

tion to the fishery laws, so that fair play may . . . be exhibited."

Splendid support to the early work of the Commission was given by newspapers throughout the state. The following comment appeared in the report of the State Commissioner of Fisheries for 1896:

"Undoubtedly the trend of public sentiment in favor of the work of the Fish Commissioners has been materially assisted by the influential newspapers of the state. These have performed yeoman service in the support and extension of fish culture and fish protection, and to them the Commissioners desire to express their appreciation of the extent to which this valuable and welcome assistance was given."

Again, from the same report:

"The general looseness of many of the fish laws are a source of great anxiety to the Commissioners for they assist in counteracting the benefits of their work. As many of the laws stand, it is only with great difficulty that convictions for illegal fishing can be secured, and with still greater difficulty can adequate punishment be meted out to offenders. In most of the laws governing or protecting fishes, the measure of punishment is largely discretionary with the officials before whom the offender is haled, instead of mandatory as it should be. In other acts, the wording is so obscure or loosely worded that they are practically inoperative. Again, there are existing evils for which there are at present either no laws at all, or where they do exist, the penalties are so absurdly light as to have absolutely no deterrent effect."

Under conditions such as these, the foundations for Pennsylvania's system of fish conservation, as we know it today, were laid. Handicapped by lack of funds (which had to be appropriated by the Legislature) the growth of the hatchery system was extremely slow during the nineteenth century.

Early Fish Hatcheries

First of the state fish hatcheries to be established was the Marietta hatchery, located about two miles from Marietta, Lancaster County, on a spring known as the Hoover Spring, one of the group of famous Donegal Springs. By 1873, this trout hatchery was in operation. It comprised one acre of ground, purchased with the option to use as much of the water as was believed necessary. Cost of the property was \$2,000. Later, insufficient water was one of the major causes in abandoning this hatchery.

Another hatchery, well known during the 'nineties was the Eastern Hatchery, located on the Little Lehigh River, about four miles above the city of Allentown. Virtually all of the trout waters in eastern Pennsylvania were dependent upon the trout fry produced at this hatchery, which was established in 1876. From it, the mountain brooks of the Poconos, streams of the Blue Ridge mountain range, and low temperature tributaries of the Lehigh, Schuylkill, Juniata and middle Susquehanna rivers received their trout for stocking. Under the capable management of John P. Creveling, this hatching station increased its



TROUT PONDS—EASTERN HATCHERY

THE DONEGAL SPRING, NEAR MARIETTA IN LANCASTER COUNTY, SITE OF PENNSYLVANIA'S FIRST STATE FISH HATCHERY—A SHAD HATCHERY—ESTABLISHED IN 1873 AND DISCONTINUED A FEW YEARS LATER. HATCHING PONDS WERE BUILT IMMEDIATELY BELOW IN THE SPRING RUN WHICH FLOWS INTO THE DONEGAL CREEK, TRIBUTARY TO THE SUSQUEHANNA RIVER.





WESTERN HATCHERY AT CORRY

capacity for output to the utmost by 1894. The Allentown hatchery was established at the site of the Trexler Trout Hatchery.

That lack of sufficient funds for propagation of fish was a major drawback in development of the hatcheries is evident from the following comments concerning the Eastern Hatchery, which appeared in the report of the Board for 1896.

"There are two buildings used in the work of rearing trout, one of which is used as a nursery or holding house for the young trout from the time they have absorbed their sacs to the period when they are ready for shipment to applicants. The station is admirably located, unfortunately it is located on leased land, and it is therefore undesirable to make any permanent improvements thereon. The two hatching houses are in a deplorable condition. On one occasion last winter after a heavy snowfall, the weight of the snow crushed in part of the roof of one of the buildings, and broke several rafters. The structure was temporarily repaired at the time and is now undergoing further patching. The other building is, if anything, in worse shape. The rear wall is fully four inches out of plumb, and has had to be shored up from the outside and strengthened by braces on the interior. If the State owned this property, permanent improvements could be undertaken and the work of the commission greatly enlarged.

The Western Station

The Western Station, located near Corry in Erie County, was established about 1875. It was one of the two hatcheries of the commissioners at which the work of hatching salmonoid fishes was carried on. The lot owned by the State was source to several large springs. Containing 84 hatching troughs which, when run at full capacity could accommodate about 1,500,000 brook trout fry, the hatching house, according to an early report of the Board, was a plain structure "admirably designed for the work."

"This is less than one-half the number which is demanded annually from the Corry hatchery for stocking the southern tier of the State, but it is the limit which can be turned out. Indeed it is seldom that as many as a million and half fry can be accommodated. This number can only be turned out when the winters are mild enough to permit the early shipment of fish."

On the grounds at Corry in 1896 were 31 ponds, used for retaining and caring for the brood trout, and for the temporary storage of warm water species of fish taken from Lake Erie for distribution to applicants in all sections of the State. William Buller was at that time in charge at Corry. First of the superintendents at this hatchery, which today is one of the most important trout producing units in the State, was Seth Weeks, from whom the property was purchased and who, prior to the time of purchase, conducted a small commercial trout hatchery at the site.

Concerning the establishment of the Western Station at Corry, the following interesting lines are taken from an early report of the Board:

"It was particularly well situated; its area was a little more than nine acres embraced in a compact oblong form. Smith street, a thoroughfare extending to it from Corry, divided the property in two parts, one of which, the lower, is heavily wooded, chiefly with white pine, one of the most graceful of American evergreens. About two miles from the center of Corry, nearly the whole area of the lot is gemmed with springs of delicious water, but as the property has a gently inclined surface, except on one portion, there was no extra dampness or moisture. The streams which run from the springs flow over heavy blue clay; thus the water, though clear as crystal, appears dark by reflection, a color rarely seen in spring water. So intense, indeed, is this reflection, that, except on very sunny days, the bottoms of the trout ponds cannot be seen. But murky though the waters appear, they are for the entire year of a singularly even temperature, varying scarcely a degree in winter or summer, and fishes of all kinds seem to grow rapidly and thrive, for at the present time there are brook trout in the ponds which, for size, are more like shad.

"Besides the springs and woods a pond or two graced the grounds and there were also a very comfortable dwelling house and a large barn. This barn was an ancient edifice, and had been at one time a primitive sawmill, one of the very first in that section of the country. The timbers in it are of enormous strength and look as though they would last a thousand years.

"For the purchase of the property the Legislature appropriated \$2,000, and for the immediate improvement \$3,000. With a portion of this latter money a first class hatching house was erected. It was sixty feet long by thirty feet wide, and contained troughs of the most approved pattern, and much better adapted to the purpose for which they were intended on account of the magnificent supply of water of the most uniform flow. The new acquisition was named the Western Hatchery on account of its being on the Pacific Ocean side of the Allegheny mountains, and Mr. Weeks, the former owner, was made superintendent. During the first year, there were hatched and distributed from this new hatchery one hundred and fifty-four thousand brook trout (fry) and eighteen thousand five hundred salmon trout (fry). Besides these there was planted in the ponds on the grounds three thousand adult brook trout, and two hundred fifty salmon trout.

"Soon after Colonel Gay became one of the Fish Commissioners, Mr. Weeks resigned his position of superintendent. But there was no difficulty in filling his place. For some time Colonel Gay had been observing the work of Mr. William Buller, Mr. Creveling's assistant (at the Allentown hatchery), and it was characterized by so much intelligence and faithfulness that he was at once offered the vacant position. . . . The appropriation for improvement had not gone very far beyond the erection of a hatching house, and like necessary matters, so that when Mr. Buller arrived at Corry to take charge it seemed like an endless task to make an orderly place of it.



ERIE HATCHERY

"Colonel Gay accompanied Mr. Buller to the hatchery and the two, undismayed by the Augean stable-like appearance of the place, went each manfully to work. They labored early and late. The fallen timber and underbrush and tangled vines were cleared away, the overplus of trees cut down to give the rest room to spread, the marsh was drained, logs and stumps taken from the ponds, and the place generally put in ship-shape condition, and a new office and sleeping room was built. Eight additional ponds were constructed, a handsome carriage drive built, a number of winding gravel walks laid out, a good portion of the property sodded, some fountains erected, two or three rustic bridges thrown across the streams and ravine, and the whole place given a park-like appearance, all at a trifling cost, for being deeply interested in his work, everything was done either by Mr. Buller himself or under his direct supervision, and the State, as a result, received all the benefit.

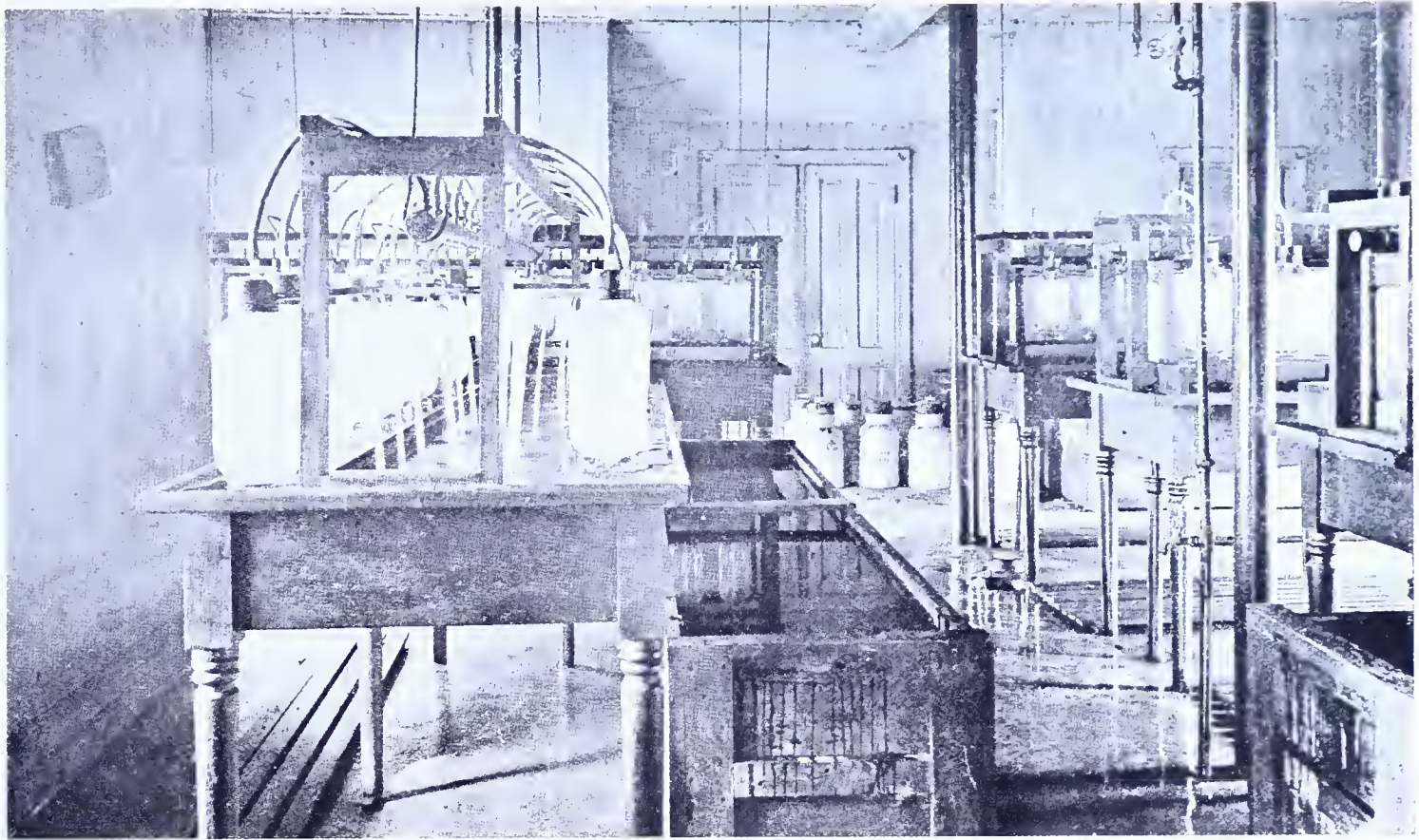
"So attractive was the place made that it speedily became a resort for the people of Corry."

The Erie Hatchery

In the early days of fish culture in Pennsylvania, the Board was extremely proud of the Erie hatchery, declared to be "from an architectural standpoint . . . the handsomest of the stations under the control of the Pennsylvania Board of Fish Commissioners."

This hatchery, a story and half frame building, fronted thirty feet on Sassafras street and about fifty feet on Second street in the city of Erie. It was observed in an early report that "from the outside there is nothing to indicate the character of the work carried on within except perhaps it is a weather vane, cut in the form of a fish which surmounts the roof. Indeed the lines of the structure are so drawn that they give the impression that it is rather the residence of a man of more than moderate means than a place in which to incubate fish eggs."

It was to the Erie station that eggs of the white fish and lake herring from Lake Erie were taken and hatched. Eggs of the wall-eyed pike or pike-perch were likewise hatched at this station, which was also under the supervision of William Buller. These eggs were incubated in McDonald hatching jars, each of which had a capacity of 150,000 white fish eggs. Most of the work at the Erie hatchery was carried on between October and May.



ERIE HATCHERY INTERIOR VIEW

PENNSYLVANIA FISH COMMISSION RAILROAD CAR



FINANCIAL REPORT

PENNSYLVANIA FISH COMMISSION

FISCAL YEAR JULY 1, 1964
TO JUNE 30, 1965



By JOHN M. SMITH, Comptroller

FOR THE benefit of Pennsylvania's anglers and sportsmen, the financial transactions of the Pennsylvania Fish Commission during the fiscal year beginning July 1, 1964, and extending through June 30, 1965 are presented in detail in the following statements, charts, and schedules. Expenditures made by other departments of the Commonwealth authorized to spend monies from the Fish Fund are included in order to show a complete record as to the status of the Fish Fund.

The Fish Commission is a self supporting organization which receives no support from the tax revenues of the State. The operations of the Commission are financed entirely by income derived from the sale of fishing licenses, collection of fines due to Fish Law violations, monies received from the Federal Government under provisions of the Dingell-Johnson Act whereby the Federal Excise Tax on fishing equipment is distributed to the various states and territories, and from other varied activities which are listed in Schedule II of this report.

To assist in the interpretations of the schedules contained in this report, the following explanation is offered:

Schedule No. I analyzes the cash on hand as of June 30, 1965. This schedule shows the accrued liabilities existing at the close of the fiscal period and the provision for necessary working capital resulting in the

net balance available for expenditures during Fiscal Year 1965-66.

Vouchers payable represents invoices in the amount of \$7,896.29 which had been submitted to the Auditor General and State Treasurer for payment prior to the close of business on June 30, 1965 but remain unpaid as of that date.

The amount of \$258,668.37 is set aside for the payment of Fish Commission commitments to purchase feed, fuel, materials, supplies, rentals, utility expenses, and accrued payrolls which were unpaid at the end of the fiscal period.

The Department of Revenue is authorized by law to issue all fishing licenses and Fish Fund monies are appropriated to cover the required expenses. The sum of \$2,496.40 is reserved to cover the outstanding bills for this activity.

Since the greater portion of the Commission's revenues are deposited to the Fish Fund during the last three months of the fiscal year, it becomes necessary to provide a sufficiently large cash reserve at the start of the fiscal period in order that adequate funds will be available to permit the Commission to function and to pay its obligations during the first nine months when expenditures exceed revenues. In order to meet

SCHEDULE NO. I
CONSOLIDATED STATEMENT OF FINANCIAL POSITION
AS OF JUNE 30, 1965

CASH			\$2,174,981.78
LESS:	LIABILITIES AND WORKING CAPITAL:		
	VOUCHERS PAYABLE	\$ 7,896.29	
	ENCUMBRANCES—PENNSYLVANIA FISH COMMISSION	258,668.37	
	ENCUMBRANCES—DEPARTMENT OF REVENUE	2,496.40	
	RESERVE FOR WORKING CAPITAL	1,000,000.00	1,269,061.06
	NET BALANCE AVAILABLE FOR EXPENDITURE DURING FISCAL YEAR 1965-1966		\$ 905,920.72

these requirements, a cash reserve of \$1,000,000.00 is required as of July 1, 1965.

The remaining amount of \$905,920.72 is available for the operations of the Fish Commission during the following fiscal year.

Schedule No. II shows a net cash balance of \$1,624,796.57 in the State Treasury at the beginning of the fiscal year July 1, 1964. Revenues from all sources during the year amounted to \$2,835,743.65 which, when added to the beginning balance provides a total of \$4,460,540.22 available to the Commission to finance the operations during the 1964-65 fiscal year.

From these funds, the Commission expended \$2,109,599.33 and other State Departments disbursed \$183,855.40, for a grand total \$2,293,454.73 including \$7,896.29 vouchers "in transit in fiscal offices at June 30, 1965." The cash balance in State Treasury to credit of the "Fish Fund" at June 30, 1965 amounts to \$2,174,981.78.

Revenues received during the 1964-65 fiscal year showed an increase of \$247,606.00 over the prior fiscal year. It is encouraging that increases occurred in the sale of resident, non-resident and tourist fishing licenses.

Schedule III shows the expenditures made by the Fish Commission in compliance with Legislative Act No. 673, Session of 1959 and Act No. 485, Session of 1963.

Expenditures are classified by the nature of the activity to which they apply. This schedule indicates that the Commission exceeded the mandated requirements for this fiscal period by \$373,474.99.

Schedule No. IV and V shows the financial condition of the "Boating Fund" as of June 30, 1965, the first full fiscal year of operations. Charts are included to present in graphic form the revenues and expenditures for the fiscal period covered by the report. The charts are self explanatory.

The Commonwealth has many controls and safeguards to insure accurate records and accounts and the judicious expenditure of funds. Under the provisions of Article IV, Section 402 of the Fiscal Code, the

Auditor General is required to audit the records and accounts of all Commonwealth Departments, Boards and Commissions at least once a year. The formal audit of the Fish Commission for the year ended June 30, 1965 has not been completed but as the records and accounts are in good order, no problems are anticipated.

Other controls imposed on all departments, Boards and Commissions are:

- 1—Mandatory requirement that all expenditures shall be audited by the Auditor General and the State Treasurer before payment.
- 2—The daily mandatory reporting of all financial transactions to the Bureau of Accounts in the Office of Administration.
- 3—The Control exercised by the Governor's Budget Secretary over all budget matters.
- 4—The periodic verification of Commission accounts with those maintained by the Department of the Auditor General, State Treasury and the Bureau of Accounts of the Office of Administration.



SCHEDULE NO. II
PENNSYLVANIA FISH COMMISSION
STATEMENT OF REVENUE, EXPENDITURES AND CASH BALANCES
FISCAL YEAR JULY 1, 1964 TO JUNE 30, 1965

REVENUE

Cash in State Treasury to Credit of "Fish Fund" July 1, 1964	\$1,624,796.57
Less: Unpaid Vouchers in Fiscal Offices as of June 30, 1964	-0-
Net Cash Available for Expenditures as of July 1, 1964	\$1,624,796.57
Receipts July 1, 1964 to June 30, 1965	
Resident Fishing Licenses	\$2,326,483.72
Non-Resident Fishing Licenses	126,021.80
Live Bait Dealers' Licenses & Miscellaneous Permits & Fees	3,223.00
Tourist Fishing Licenses	41,871.30
Lake Erie Licenses	1,724.00
Commercial Hatchery Licenses	7,075.00
Fee Fishing Lake Licenses	8,040.00
Fish Law Fines	27,305.00
Interest on Securities	25,825.76
Interest on Deposits	5,947.88
Sale of Unserviceable Property (Department of Property and Supplies)	1,216.00
Contributions for Restocking Streams	36,603.24
Contributions from Federal Government (Dingell-Johnson Act)	148,518.97
Sale of Publications	25,837.83
Rental of Fish Commission Property	5,590.00
Miscellaneous Revenue—Fish Commission	
Miscellaneous Revenue—Revenue Department	44,460.15
Refunds of Expenditures—Not Credited to Allocations	
Sale of Vehicles (Department of Property and Supplies)	
Total Receipts from All Sources	\$2,835,743.65
Total Funds Available During Year	\$4,460,540.22

CLASSIFICATION OF EXPENDITURES BY ORGANIZATIONAL UNITS

Classification of Expenditures	Executive and General Administration	Propagation	Fishery Management and Research	Law Enforcement	Conservation Education	Land and Waters Management	Engineering and Development	Commission Total
Salaries	\$102,784.54	\$586,682.65	\$116,774.49	\$299,391.69	\$29,693.50	\$ 72,078.30	\$ 79,120.39	\$1,286,525.56
Wages	2,781.35	18,636.71	7,375.83	770.94	-0-	13,660.31	4,929.63	48,154.77
Professional & Special Services	20,159.86	314.97	480.66	968.23	9,508.06	1,008.45	151.49	32,591.72
Printing	16,733.60	341.82	196.40	156.47	35,622.74	518.12	-0-	53,569.15
Postage & Freight	2,582.72	727.99	340.89	1,943.72	8,519.60	134.00	174.01	14,422.93
Communications, Utilities & Fuel	5,565.32	35,333.76	4,762.18	9,086.97	957.26	1,484.35	1,424.64	58,614.48
Travel	10,085.79	6,962.54	4,904.66	79,066.84	3,155.87	4,719.09	2,293.57	111,188.36
Memberships Dues & Subscriptions	172.00	9.00	141.45	-0-	59.50	20.00	55.00	456.95
Insurance	438.63	3,856.52	1,317.47	1,126.03	204.81	536.98	324.08	7,804.52
Motorized Equipment Supplies & Repairs	818.49	28,451.42	2,971.98	332.01	334.80	2,783.76	2,788.74	38,481.20
Contracted Repairs & Maintenance Services	1,656.96	1,551.95	1,041.53	230.60	489.42	362.92	188.31	5,521.69
Rent of Real Estate	-0-	2,825.00	300.00	699.49	135.00	262.00	-0-	4,221.49
Rent of Equipment	950.11	214.24	70.20	-0-	-0-	565.50	-0-	1,800.05
Miscellaneous Materials & Supplies	2,325.95	13,913.29	7,046.64	1,794.29	5,286.25	1,376.81	2,755.87	34,499.10
Fish Food & Other Agricultural Supplies	-0-	145,306.13	482.67	-0-	-0-	-0-	-0-	145,788.80
Motor Vehicles	-0-	-0-	1,566.56	-0-	-0-	-0-	-0-	1,566.56
Equipment, Machinery & Furniture	250.20	1,509.46	1,471.78	72.00	2,099.28	1,871.34	5,121.46	12,395.52
Land & Waters Buildings & Structures	-0-	-0-	-0-	-0-	-0-	20,000.00	-0-	20,000.00
Non-Structural Improvements	-0-	-0-	-0-	-0-	-0-	-0-	207,035.91	207,035.91
Refund of Receipts	5.00	-0-	-0-	-0-	-0-	-0-	17,455.57	17,455.57
Grants & Subsidies	-0-	-0-	7,500.00	-0-	-0-	-0-	-0-	5.00
Total Expenditures by Fish Commission	\$167,310.52	\$846,637.45	\$158,745.39	\$395,639.28	\$96,066.09	\$121,381.93	\$323,818.67	\$2,109,599.33
Plus: Expenditures by Other State Departments								
• Department of Revenue—Printing Fishing Licenses, Tags and Miscellaneous Forms								\$ 43,876.01
• Department of State—Contributions to Employees' Retirement System								88,806.00
• Department of Labor and Industry—Contributions to Social Security								48,096.86
• Department of Property & Supplies—Payment of General State Authority Rentals								3,076.53
TOTAL EXPENDITURES								\$2,293,454.73

Cash Balance June 30, 1965, Available for Expenditures in 1965-1966 Fiscal Year 2,167,085.49
Plus: Unpaid Vouchers in Fiscal Offices as of June 30, 1965 7,896.29

Cash Balance in State Treasury to Credit of "Fish Fund" June 30, 1965 \$2,174,981.78

• These items are paid out of the "Fish Fund" upon requisition drawn by other departments and are included for a complete presentation of the "Fish Fund" finances.

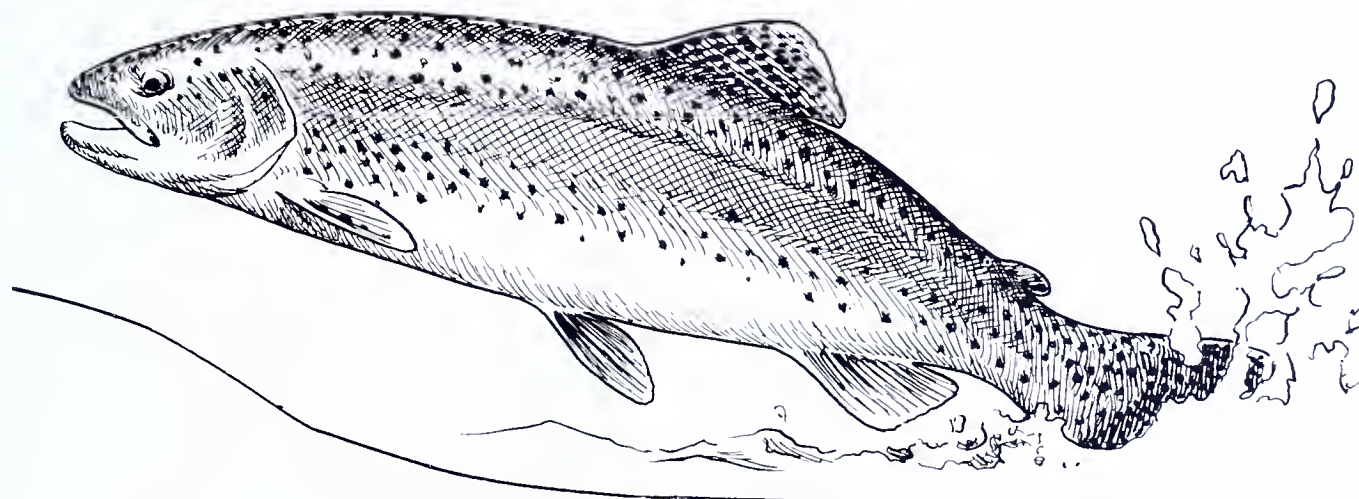
SCHEDULE NO. III

EXPENDITURES IN COMPLIANCE WITH ACT NO. 673, SESSION OF 1959 AND ACT NO. 458, SESSION OF 1963.

	Fishery Management and Research	Acquisition of Lands and Fishing Waters	Management and Maintenance of Lands and Fishing Waters	Development of Lands and Fishing Waters	Totals
SALARIES AND WAGES	\$124,150.32	\$12,141.50	\$73,597.11	\$ 84,050.02	\$293,938.95
Salaries	116,774.49	12,141.50	59,936.80	79,120.39	267,973.18
Wages	7,375.83	—0—	13,660.31	4,929.63	25,965.77
OTHER OPERATING EXPENSES	24,056.73	2,219.82	11,552.16	10,155.71	47,984.42
Professional and Special Services	480.66	966.00	42.45	151.49	1,640.60
Printing	196.40	—0—	518.12	—0—	714.52
Postage and Freight	340.89	—0—	134.00	174.01	648.90
Communications, Utilities and Fuel	4,762.18	106.90	1,377.45	1,424.64	7,671.17
Membership Dues and Subscriptions	141.45	20.00	—0—	55.00	216.45
Travel	4,904.66	939.85	3,779.24	2,293.57	11,917.32
Insurance	1,317.47	50.70	486.28	324.08	2,178.53
Motorized Equipment Supplies and Repairs	2,971.98	89.58	2,694.18	2,788.74	8,544.48
Contracted Repairs and Maintenance Service	1,041.53	25.00	337.92	188.31	1,592.76
Rent of Real Estate	300.00	—0—	262.00	—0—	562.00
Rent of Equipment	70.20	—0—	565.50	—0—	635.70
Miscellaneous Materials and Supplies	7,046.64	21.79	1,355.02	2,755.87	11,179.32
Fish Food and Other Agricultural Supplies	482.67	—0—	—0—	—0—	482.67
Other Services and Supplies					
EQUIPMENT	3,038.34	—0—	1,871.34	5,121.46	10,031.14
Motor Vehicles	1,566.56	—0—	—0—	—0—	1,566.56
Equipment, Machinery and Furniture	1,471.78	—0—	1,871.34	5,121.46	8,464.58
OUTLAY FOR LANDS, STRUCTURES AND IMPROVEMENTS	—0—	20,000.00	—0—	224,491.48	244,491.48
Land	—0—	20,000.00	—0—	—0—	20,000.00
Buildings and Structures	—0—	—0—	—0—	207,035.91	207,035.91
Non-Structural Improvements	—0—	—0—	—0—	17,455.57	17,455.57
GRANTS	7,500.00	—0—	—0—	—0—	7,500.00
TOTALS	\$158,745.39	\$34,361.32	\$87,020.61	\$323,818.67	\$603,945.99

STATEMENT OF RECEIPTS AND EXPENDITURES—ACT NO. 458—SESSION OF 1963

Fiscal Year	Resident Licenses Sold	Non- Resident Licenses Sold	Minimum To Be Expended	Expenditures	Over (°) or Under (—) Minimum
1964-65	447,690	13,252	\$230,471.00	\$603,945.99	\$373,474.99*



WATERCRAFT SAFETY



THIS continued to be a busy period in the growing Watercraft Safety Program. The Educational Committee of Boating Safety readied Pennsylvania's public instruction course, and the last two weeks in April and the first week in May it was presented on a "pilot" basis in four (4) areas of the Commonwealth. One hundred sixty-seven persons took and satisfactorily completed the course, which is entitled "Boating Pleasure."

The Educational Committee consists of eminently qualified individuals who have been or are affiliated with the U. S. Power Squadrons and U. S. Coast Guard Auxiliary. They are Mr. Gustave F. Straub, USPS, Chairman; Dr. Charles G. Grosseup, USPS; Mr. George K. Robinson, USPS; Mr. Norman H. Beebee, USCG Auxiliary, USPS, and member of the Commonwealth's Advisory Board; Mr. Richard H. Stuber, USCG Auxiliary and USPS; and Mr. James Toggart, USCG Auxiliary and USPS. Commodore W. J. Garry of the USCG Auxiliary sat with the group in an advisory capacity.

Plans were made to hold a critique on the course early in the next fiscal year before sending it to the printers for the following spring's expanded program. The U. S. Coast Guard Auxiliary and U. S. Power Squadrons conducted the "pilot" courses and will continue in the immediate future to assist Commission personnel until our people are sufficient in numbers and training to take over complete instructor duties.

A compact 4" x 8½" booklet entitled "Pennsylvania Pleasure Boating Requirements" was prepared to provide ready information on numbering procedures; laws affecting boating, including Act 400, the Motor Boat Law; and the motor boat regulations. Plans and drafts were pre-

pared for the publishing of five (5) folders: "Boat Trailing", "Numbering and Equipment Summary", "Marine Parades, Regattas, Races, Tournaments and Exhibitions," "Water Skiing, Aquaplaning, and Similar Activities," and "The Uniform Waterway Marker System".

Exams were conducted to hire full time motor boat specialists. Two excellent men were hired before the end of the fiscal year. They are, Dean E. Klinger, to patrol in the southeast area, and Alvin H. Wright, to operate the "Perca" on Lake Erie in the northwest. The hiring of one or two other men for the northeast and southwest areas was expected to follow shortly after the end of the fiscal year. These men were assisted by the hiring of seven (7) part time security officers on various water areas in the Commonwealth.

The Watercraft Safety Officers will augment the regular warden force and will be used among other things to patrol in areas of high boating density, investigate boating accidents, instruct in our public education program, and keep the warden force abreast of new developments in the boating field.

By June 30, 1965, the number of registered boats in Pennsylvania had risen to 94,922 from the figure of a year before which was 78,691.

In an attempt to mark some of the hazards on our waterways, 270 buoys and their ground tackle were ordered, of which 40 are to be equipped with lights. An additional 54 lights were ordered for the marking of bridges. In excess of 500 other aids were installed by private organizations in compliance with the Uniform Waterway Marker System.

* * *

SCHEDULE IV
PENNSYLVANIA FISH COMMISSION
STATEMENT OF REVENUE, EXPENDITURES AND CASH BALANCES
FISCAL YEAR JULY 1, 1964 TO JUNE 30, 1965
REVENUE

Cash in State Treasury to Credit of "Boating Fund" July 1, 1964		\$114,485.38
Receipts July 1, 1964 to June 30, 1965		
Motor Boat Registration Fees—Fish Commission	\$302,381.00	
Motor Boat Registration Fees—Delaware River Navigation Commission	27,506.10	
Motor Boat Fines—Fish Commission	3,245.00	
Miscellaneous Revenue—Fish Commission	9.53	
Motor Boat Fine—Delaware River Navigation Commission	405.00	
Total Receipts from all Sources		\$333,546.63
Total Funds Available During Year		\$448,032.01

CLASSIFICATION OF EXPENDITURES BY ORGANIZATION UNITS

<u>Classification of Expenditures</u>	<u>Administration</u>	<u>Law Enforcement</u>	<u>Boating Fund Total</u>
Salaries	\$23,209.00	\$17,195.00	\$40,404.00
Wages	—0—	1,758.00	1,758.00
Professional & Special Services	87.00	91.97	178.97
Printing	8,555.74	127.50	8,683.24
Communication & Postage	591.95	313.54	905.49
Travel	1,907.78	7,909.55	9,817.33
Insurance & Memberships	87.91	176.57	264.48
Motorized Equipment Repairs	304.77	1,369.44	1,674.21
Contracted Repairs & Maintenance Services	4,131.12	1,692.54	5,823.66
Rent of Real Estate & Equipment	—0—	1,195.96	1,195.96
Maintenance & Miscellaneous Supplies	3,949.13	1,321.54	5,270.67
Motor Vehicles, Boats & Equipment	2,555.19	6,746.91	9,302.10
Total Expenditures by Fish Commission	\$45,379.59	\$39,898.52	\$85,278.11
Plus: *Expenditures by Other Departments			
*Department of Revenue—Provide forms for registration of motor boats		\$50,843.15	
*Department of State—Contributions to Employees' Retirement System		1,528.00	
*Department of Labor & Industry—Contribution to Social Security		585.72	
Delaware River Navigation Commission		16,058.35	69,015.22
Total Expenditures			\$154,293.33
Cash Balance in State Treasury to credit of the "Boating Fund" at June 30, 1965			\$293,738.68

* These items are paid out of "Boating Fund" upon requisition drawn by other departments and are included for a complete presentation of the "Boating Fund" finances.

SCHEDULE NO. V
CONSOLIDATED STATEMENT OF FINANCIAL POSITION
AS OF JUNE 30, 1965

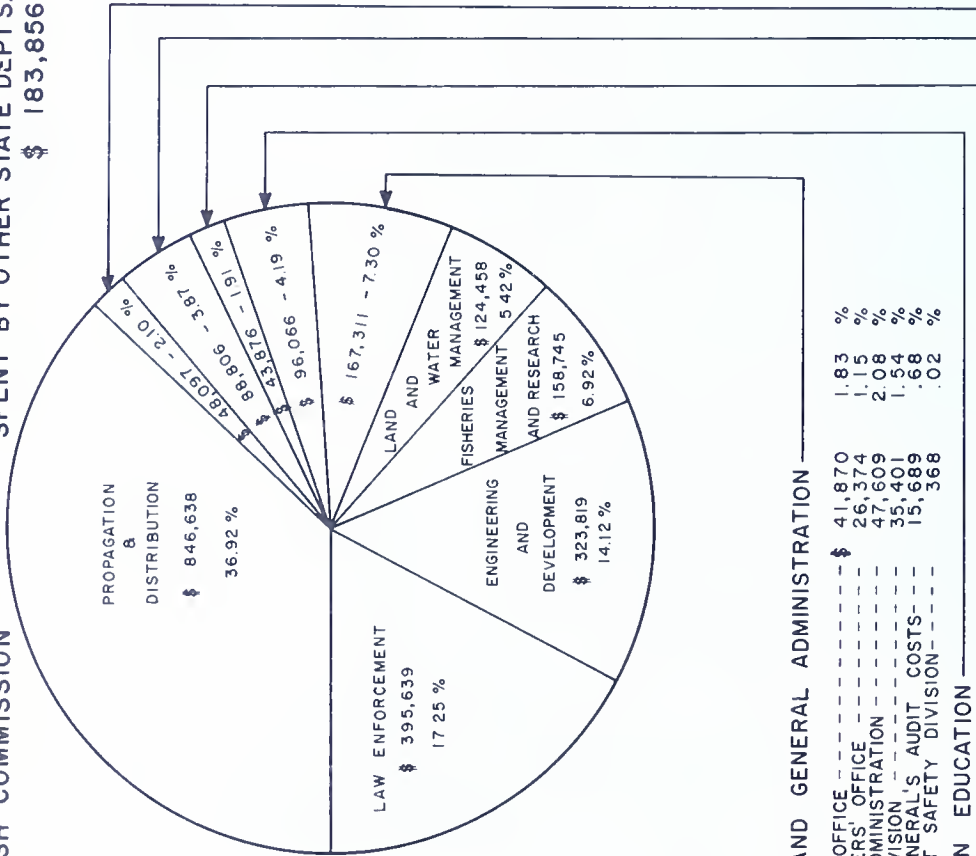
CASH		\$293,738.68
LESS: LIABILITIES AND WORKING CAPITAL:		
VOUCHERS PAYABLE	\$ 3,243.43	
ENCUMBRANCES—PENNSYLVANIA FISH COMMISSION	34,037.23	
ENCUMBRANCES—DEPARTMENT OF REVENUE	28,646.01	
RESERVE FOR WORKING CAPITAL	100,000.00	
		165,926.67
NET BALANCE AVAILABLE FOR EXPENDITURE DURING FISCAL YEAR 1965-1966		\$127,812.01

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA FISH COMMISSION

HOW THE FISHERMAN'S DOLLAR WAS SPENT

EXPENDITURES FOR THE FISCAL YEAR JULY 1, 1964 TO JUNE 30, 1965
TOTAL \$ 2,293,455

SPENT BY FISH COMMISSION \$ 2,109,599
SPENT BY OTHER STATE DEPT'S. \$ 183,856



EXECUTIVE AND GENERAL ADMINISTRATION

DIRECTOR'S OFFICE	41,870	1.83 %
COMPTROLLER'S OFFICE	26,374	1.15 %
GENERAL ADMINISTRATION	47,609	2.08 %
SERVICE DIVISION	35,401	1.54 %
AUDITOR GENERAL'S AUDIT COSTS	15,689	.68 %
WATERCRAFT SAFETY DIVISION	368	.02 %

CONSERVATION EDUCATION

DEPARTMENT OF REVENUE (PRINTING & ISSUING LICENSES)

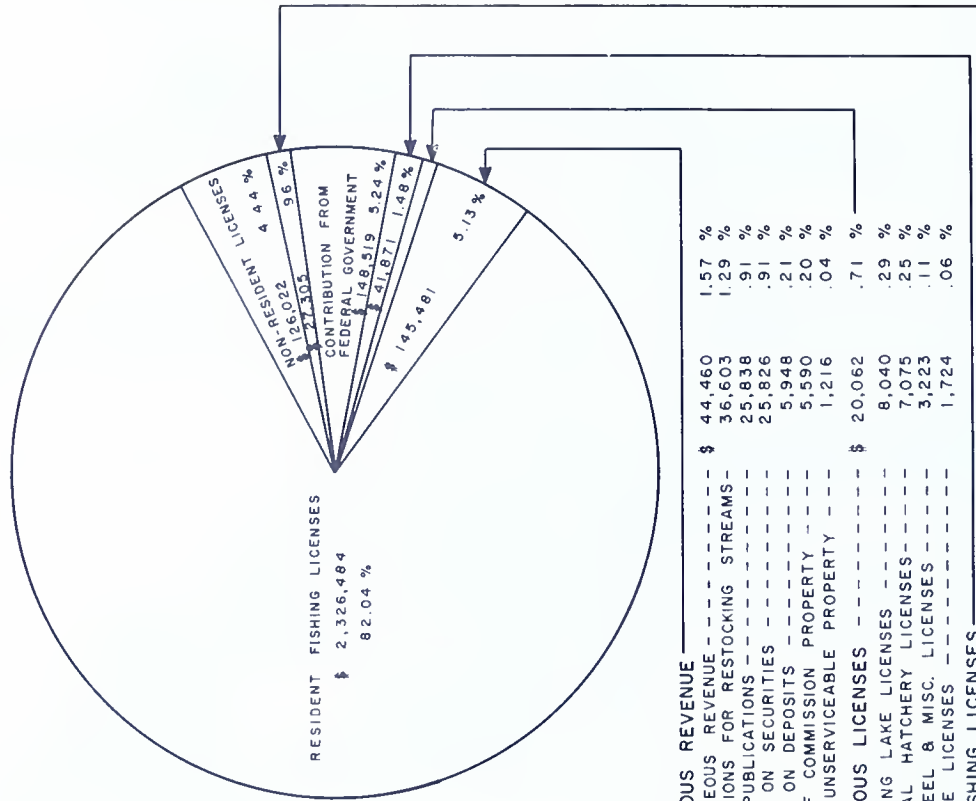
DEPARTMENT OF STATE (STATE EMPLOYEES' RETIREMENT FUND)

DEPARTMENT OF LABOR & INDUSTRY (SOCIAL SECURITY TAXES)

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA FISH COMMISSION

REVENUE SOURCES - FISH FUND

RECEIPTS FOR THE FISCAL YEAR JULY 1, 1964 TO JUNE 30, 1965
TOTAL \$ 2,835,744



MISCELLANEOUS REVENUE

MISCELLANEOUS REVENUE	44,460	1.57 %
CONTRIBUTIONS FOR RESTOCKING STREAMS	36,603	1.29 %
SALE OF PUBLICATIONS	25,838	.91 %
INTEREST ON SECURITIES	25,826	.91 %
INTEREST ON DEPOSITS	5,948	.21 %
RENTAL OF COMMISSION PROPERTY	5,590	.20 %
SALE OF UNSERVICEABLE PROPERTY	1,216	.04 %
MISCELLANEOUS LICENSES	20,062	.71 %
FEE FISHING LAKE LICENSES	8,040	.29 %
COMMERCIAL HATCHERY LICENSES	7,075	.25 %
SPECIAL EEL & MISC. LICENSES	3,223	.11 %
LAKE ERIE LICENSES	1,724	.06 %

TOURIST FISHING LICENSES

FINES - FISH LAW

Division Reports to the Sportsmen

FISCAL YEAR JULY 1, 1964 TO JUNE 30, 1965

ADMINISTRATION

THE Division of Administration is primarily a service division for the Fish Commission. Its main functions are budget, procurement, personnel training and general services. It is responsible for legislation study and reporting, review and issue of numerous types of licenses and permits, regulation preparation, expenditure schedules, records and reports.

During this twelve month period an apparent leveling off of revenue declines occurred as a result of a license increase and upward trend in license sales, particularly during the latter half of the period. The austerity program continued during this fiscal year in anticipation of a continuing upward trend in license sales which will provide the revenue necessary for restoration of program cutbacks of previous years.

The approval of Project 70 on June 22, 1964, allotted \$5,000,000 to the Fish Commission for acquisition of lands for the conservation and propagation of fish and other aquatic life and for access sites on lakes and waterways for fishing and boating purposes and related administrative costs.

The personnel section of the division serves as liaison between the operating divisions and the State Civil Service Commission and Governor's Office of Administration. During this fiscal period a total of 202 personnel transactions were processed. At the present time approximately 87 employes are covered by Civil Service, which indicates an increase of nine over the last fiscal year. The total salary complement was increased from 247 to 263. This increase was due primarily to personnel employed for Project 70.

The following licenses and permits were reviewed and issued by the division:

Artificial Propagation Licenses	239
Live Bait Dealer's Licenses	260
Regulated Lake Licenses	273
Net Permits	305
Draw Down Permits	126
Transportation Permits	69
Scientific Collector's Permits	62
Dynamite Permits	16

The following permits were reviewed and acted upon in conjunction with other State agencies:

Mine Drainage Permits	574
Highway Channel Changes	298
Stream Clearance Permits	45
Dam Construction Permits	46
Water Allocation Permits	25

—PAUL F. O'BRIEN

PROPAGATION AND DISTRIBUTION

With the exception of muskellunge fingerling and certain warm water species, production was slightly under the same period the previous year, especially in the trout species. However, the experimental fall stocking of certain streams, plus fall lake stocking should make up most of the difference. The production of muskellunge fingerling almost tripled over last year. Walleye fingerling more than doubled the numbers produced the same period last year.

The new trout unit at Pleasant Mount is in production this year. Excellent results have been experienced so far.

The first phase of renovation at the Huntsdale hatchery is underway and should be completed by next fall. There will be a slight reduction in numbers at that station due to the renovation program. However, with the new unit in operation at Pleasant Mount and a slight increase at some of the other stations, it is felt trout production next year will show an increase over this year. Studies and preliminary plans for renovation at other hatcheries are underway. We are confident the renovation program will continue at an accelerated pace until all stations have been modernized.

The attached is a summary report of all fish stocked in the waters of Pennsylvania, including trout stocked by Federal hatcheries in the Federal-State Cooperative Stocking Program.

A report of trout stocked in public waters by the Cooperative Nurseries is also included.

The Cooperative Nursery Program has been revised with a competent man placed in charge. It is felt with the help and advice this man will be able to supply, the production from these nurseries will increase substantially over the coming years.

REPORT OF DISTRIBUTION COOPERATIVE NURSERIES 1965

The following figures are from fingerlings furnished in the spring of 1964 and reported as being stocked from the Cooperative Nurseries during 1965.

Number of trout distributed in public waters reported by Cooperative Nurseries	199,940	
Approx. weight distributed to public waters reported by Cooperative Nurseries	45,490.40 lbs.	
Fingerling stocked	27,437	828.74 lbs.
Adults stocked	172,503	44,661.66 lbs.
	199,940	45,490.40

—HOWARD FOX

RECORD OF FISH STOCKED

FISCAL YEAR

July 1, 1964 to June 30, 1965

STATE HATCHERIES

Species	Fry		Fingerling		Adult		Total Fry & Fing		Total Adult	
	Number	Weight	Number	Weight	Number	Weight	Number	Weight	Number	Weight
Brook Trout	305,000	-0-	452,044	3,203.25	451,471	123,015.68	757,044	3,203.25	451,471	123,015.68
Brown Trout	-0-	-0-	228,421	1,674.88	920,383	325,135.35	228,421	1,674.88	920,383	325,135.35
Rainbow Trout	-0-	-0-	418,500	1,877.53	703,319	271,690.68	418,500	1,877.53	703,319	271,690.68
Lake Trout	-0-	-0-	14,000	224.00	-0-	-0-	14,000	224.00	-0-	-0-
Steelheads	-0-	-0-	42,000	68.25	-0-	-0-	42,000	68.25	-0-	-0-
Kamloop	-0-	-0-	7,500	62.00	-0-	-0-	7,500	62.00	-0-	-0-
Alhino Brook Trout	-0-	-0-	-0-	-0-	8	5.00	-0-	-0-	8	5.00
	305,000	-0-	1,162,465	7,109.91	2,075,181	719,846.71	1,467,465	7,109.91	2,075,181	719,846.71
TOTAL TROUT STATE HATCHERIES									3,542,646	726,956.62

FEDERAL HATCHERIES

Brook Trout	230,235	69,895.00
Brown Trout	95,070	25,780.00
Rainbow Trout	261,945	76,873.00
	587,250	172,548.00
TOTAL TROUT FEDERAL HATCHERIES		587,250 172,548.00
GRAND TOTAL ALL TROUT		4,129,896* 899,504.62*

WARM WATER SPECIES

Kokanee	-0-	-0-	55,000	27.50	-0-	-0-
Walleye	14,000,000	-0-	352,100	1,776.22	810	2,521.97
Muskellunge	454,500	-0-	67,511	1,422.11	-0-	-0-
Northern Pike	600,000	-0-	11,580	488.32	725	1,101.00
Chain Pickerel	-0-	-0-	-0-	-0-	582	292.45
L.M. Bass	105,000	-0-	197,750	6,259.40	1,480	970.05
S.M. Bass	-0-	-0-	500	8.00	1	1.84
Brown Bullheads	-0-	-0-	-0-	-0-	3,348	2,378.12
Channel Catfish	-0-	-0-	-0-	-0-	696	723.17
Catfish	-0-	-0-	-0-	-0-	200	121.00
White Crappie	-0-	-0-	-0-	-0-	20,401	20,401.00
Black Crappie	-0-	-0-	-0-	-0-	1,150	414.00
Yellow Perch	-0-	-0-	-0-	-0-	1,442	405.06
Carp	-0-	-0-	-0-	-0-	7,601	25,904.00
Bluegills	-0-	-0-	3,630	36.15	6,469	1,900.90
Minnows	-0-	-0-	5,500	213.40	5,000	50.00
Tiger Muskellunge	-0-	-0-	8,600	12.04	-0-	-0-
Eels (Elvers)	1,300,000	-0-	-0-	-0-	-0-	-0-
	16,459,500	-0-	702,171	10,243.14	49,905	57,184.56
TOTAL WARM WATER SPECIES						17,211,576 67,427.70
GRAND TOTAL ALL SPECIES						21,341,472 966,932.32

* Separate Report of Fish Stocked by Cooperative Nurseries Attached, but not included in this Report.

RESEARCH AND FISH MANAGEMENT

ANY advances which are made for the improvement of fishing usually are initiated through research. Due to its implications, research played an important part in the program of this Division and cooperative agencies.

The testing of drugs for the possible control of whirling disease in trout continued during the past year. A drug which did show promise proved to be very toxic to trout and may be of little value for this reason.

The bio-assay study on the effect of certain physical and chemical conditions on American shad eggs and larvae continued for a second year. Tests not completed last year were emphasized. Eggs and larvae of shad were subjected to conditions in the laboratory similar to those which might occur in the polluted sections of the Susquehanna River.

The evaluation of aquatic herbicides continued. Information was obtained for a cooperative effort with the Pennsylvania State University Cooperative Extension Service to publish a manual on aquatic weed control for Pennsylvania. It is expected the manual will be available in the spring of 1966.

An additional cooperative project was initiated with the Pennsylvania State University Cooperative Extension Service on the effect on aquatic life of the recent DDT spraying for the fall cankerworm in Potter and Tioga counties. Samples of fish, crayfish, water, and stream bottom sediments were collected prior to the spraying operations and at intervals since the spraying. Particular attention is directed toward possible adverse effects on trout reproduction as well as the build-up of DDT in the tissues of trout and crayfish.

The Benner Spring Fish Research Station continued to give advice on methods of control of fish diseases in state, commercial, and sportsmen-operated cooperative nurseries. Commercial hatcheries continued to seek advice on hatchery construction and modern fish cultural practices.

In nutrition experiments, a pelleted formula primarily for brood trout is being tested on the fish at Benner Spring. Condition of the fish, coloration, and egg viability are the primary concern of these tests.

In addition to continued research on pigmentation of trout, many commercial diets were tested for consideration as production diets.

As a result of the pigmentation experiments conducted at Benner Spring the Pennsylvania Fish Commission has authorized a manufacturer of a commercial trout food to incorporate 2 per cent paprika in the diet of trout at one of the largest production hatcheries. The acceptance of these highly colored fish by anglers will be closely watched.

At the Benner Spring Station 448,343 legal trout weighing 139,457 pounds were transferred to the production hatcheries for distribution to public fishing waters.

In cooperation with geneticists at the Pennsylvania State University, soluble proteins of blood cells (hemoglobin), of blood serum (albumin, globulins, and lipoproteins), of eye lenses (globulins), and of tissues (enzymes in liver, heart, and muscle) were studied in inbred lines of each trout species and in hybrids between these lines. Differences found in these proteins have been determined to be inherited and thus will provide additional characters with which to distinguish different populations of trout. These studies are also aimed at determining if different protein types are associated with growth and reproduction so that superior strains may be selected through breeding of the appropriate combinations for protein types.

The Cooperative Fisheries Unit of the Pennsylvania State University, partly supported by Fish Commission funds, has been working essentially in two areas of aquatic biology: (1) studying the relationships of predators and prey and (2) examination of water quality as it is related to fisheries. The research projects of the Unit are as follows: pond morphometry as it is related to the maintenance of bass and golden shiner populations; the bowfin as a predator on bluegills; the behavior of smallmouth bass as related to cover in flowing water; population ecology of the white sucker; effects of petroleum brine on trout streams; effects of the insecticide, Sevin, and a biological control agent, *Bacillus thuringiensis*, on an aquatic ecosystem; and aquatic life as related to high stream acidity.

A thesis was completed on the study of the bowfin which established a curve for the different sizes of bowfin with respect to their daily food ration of bluegills.

Another study determined that juvenile smallmouth bass utilize individual pieces of cover by excluding other bass from such protection. They are highly territorial. Further work is contemplated for next summer in relating this territoriality to cover as found in the Raystown Branch of the Juniata River.

A doctoral thesis on the white sucker revealed that this species does not move great distances and is slow in repopulating areas of the stream from which it is removed.

Seasonal changes in aquatic invertebrates affected by petroleum brine has been continued in the Allegheny National Forest area. The Unit is presently determining the species and abundance of the insects affected by a recent spraying in Potter county for the control of the fall cankerworm. The Unit has been following the seasonal changes in acidity and the changes in aquatic invertebrates in a natural acid stream near State College.

Management activities in this Division were again restricted because of previous drastic reductions in manpower. Generally, only matters of major importance could be considered.

Biologists assisted in improvement work on three streams, worked with channel change inspections, and, using electro-fishing gear, collected fish population samples where pollution was suspected.

The kokanee project in Upper Woods Pond, Wayne County, was followed and approximately 32 quarts of eggs were taken from the adults in this lake. The young resulting from these eggs were planted back into the lake at various sizes.

The number of "high-pressure" area trout plantings was increased last year. These weekly trout plantings in heavily utilized areas were very popular with the sportsmen of these regions. Because of public acceptance and the increased trout utilization, it is hoped that in the future this program can be extended to cover the entire state.

Because the range of muskellunge and northern pike is constantly being extended, an experiment was conducted to study the potential hybridization of these new fishes with the indigenous pike species and to identify if possible any resulting hybrids. A paper based on the taxonomy of these hybrids was co-authored with Dr. E. J. Crossman and published in the Fisheries Research Journal of Canada. A succeeding paper now in preparation will discuss the fertility of the crosses of pike and also the fertility of the progeny.

The muskellunge introductions have been very successful in some areas. At Falmouth on the Susquehanna River below Harrisburg, over 200 legal muskellunge were taken during the winter season last year. In one lake in the Northeast, a number of "tiger" muskellunge (hybrids between northern pike and muskellunge) were stocked. These fish were planted in the hope that they would be a control for the stunted panfish which are present and, of course, create some interesting fishing. Hybrids were used because they are relatively sterile and no danger could exist in establishing a predator fish in the trout waters below.

Ten thousand warmwater fish and ten thousand trout were marked in conjunction with the Atlantic Fishing Contest. The ten thousand warmwater fish consisted of a variety of species and sizes and were marked in lakes scattered throughout the Commonwealth. The number of tag returns from these and from the trout will provide some valuable information for future management.

A team composed of a fishery biologist, an engineer, and a real estate man made numerous investigations of land and water sites to determine their feasibility for acquisition under Project 70. Special emphasis was placed on areas in the Commonwealth suitable for hatcheries, fish impoundments, and for possible acquisition of permanent streams. For a more detailed accounting of accomplishments under this program, refer to the report of the Engineering Division.

Many miscellaneous problems received the attention of fishery management. Investigation of the effectiveness of wired areas, helping to plan cooperative nurseries, checking and helping to set up "fly-fishing only" areas and "fish-for-fun" areas were part of the assignment.

Lectures, displays, and tours for conservation groups were again part of the yearly program.

Oxygen tests were run at all depths on lakes currently being stocked with trout. These "oxygen profiles" are important to establish good management practices. Drastic changes were noted in some lakes during the past ten years.

In one of the miscellaneous experiments conducted during the year, the preference of minnows for traps made of various colored plastics and wire was studied. It was concluded that although there was variation in the catch, there was greater variation in relation to the trap location and the movement of the minnows on a particular day than there was in the color or type of trap.

The staff at the Benner Spring Fish Research Station acted as instructors for a two month period during the H. R. Stackhouse School of Fishery Conservation and Water Craft Safety. The biological portion of the program was held in the library-conference room at Benner Spring.

In January, 1965, the Northeastern Division of the American Fisheries Society met in Harrisburg and was hosted by the Pennsylvania Fish Commission. Technical information gleaned from the wealth of information presented was useful to the state's biologists.

Management biologists also assisted on County Planning Commissions, "A Wild River" float trip, and with special I & E projects.

—KEEN BUSS

LAW ENFORCEMENT

ON FEBRUARY 1, 1965, the Law Enforcement Division of the Pennsylvania Fish Commission was brought up to a full complement of officers. Ten young men, who, in late January, were the first graduates of the H. R. Stackhouse Fishery Conservation and Watercraft Safety School, were assigned to fill vacancies which in some instances had existed for more than two years.

The excellent training these new wardens received while attending our training school was evident in the manner in which they have conducted the affairs of the Fish Commission in their respective assignments.

Due to promotions and retirements within the law enforcement division, it was necessary for the State Civil Service Commission to conduct written and oral examinations in October, 1965, to secure another list of fish warden applicants for our training school which convened November 8th.

Another activity of the wardens and regional warden supervisors which has met with success is the fishing schools they have conducted on an experimental basis in some parts of our State. This part of the Commission's program will be enlarged. At these schools, persons are taught how to fish, where to fish, tackle to use, when to fish, etc. The enthusiasm displayed by the public at these schools of instruction far exceeded our expectations. It became necessary to have more wardens qualify as instructors for this course.

A fish warden's duties today are much more diversified than they were a decade ago. While law enforcement must be done and is an integral part of a warden's work, he has come to know that good public relations is just as important as any facet of his operations, and it is to that end your Commission has insisted we proceed.

—W. W. BRITTON

PUBLIC RELATIONS

THE number one job of the Public Relations Division is to tell fishermen and the people of the Commonwealth what the Pennsylvania Fish Commission is doing to improve fishing now and the plans for future improvement projects.

Public relations, in any organization, has hundreds of facets and the Fish Commission is no exception. Because of lack of space all programs cannot be listed, but a summary of the current programs are included herein.

During the past year the Public Relations Division has established more than 650 "Instant Information" centers throughout the Commonwealth. As a result of this new program, fishermen anywhere in the state can obtain up-to-the-minute information on Commission activities, when and where the fish are biting, best baits and lures, etc. All of these information centers have one of the Commission's Blue Books, which contain all of our publications and receive all news releases and weekly fishing conditions reports. They have a supply of checklists which enable fishermen and boaters to order any of the free or paid Commission publications and they are also agents for subscription sales to the PENNSYLVANIA ANGLER. The public relations staff keeps in close personal contact with these agents.

The circulation of the PENNSYLVANIA ANGLER has been climbing steadily. The magazine has added a section on camping and a monthly "fishing tips" column.

Instructional teams composed of district fish wardens have been organized to teach the "fundamentals of fishing" to youth groups in schools, adult classes in local YMCA's and YWCA's. These men demonstrate the various methods of fishing and present an illustrated lecture on fish identification.

The new "Fisherman's Guide to Pennsylvania Waters and Access Areas" was published during the year, and the second edition is now on press. The "Fly Tying Course" has proven extremely popular and is now in its third edition. Other Commission publications continue to be in great demand by the fishing and boating public.

The Commission's five slide lectures have been shown to hundreds of interested groups by district fish wardens and other Commission personnel. The Division is currently in the process of producing several new lectures to meet the demand for these educational and entertaining visual aids.

New mounted fish exhibits have been produced and were displayed at many county fairs, sportsmen's shows, field days and other events. The Commission's popular live

fish display was exhibited at all of the major sportsmen's shows, including Harrisburg, Allentown and Philadelphia.

In addition to weekly fishing reports, more than 60 special news releases were mailed to 2,200 newspapers, radio and TV stations, outdoor columnists and information agencies. "Fishing Lines" which contains interesting facts and figures about fish and fishing, was inaugurated this year and has proven extremely popular among outdoor writers, radio and TV.

The Division has answered thousands of mail requests for information and literature either by personal letter or by printed materials.

Division personnel have personally contacted Blue Book agents throughout the state, newspaper editors and columnists, radio and TV program directors and commentators and sportsmen's organizations. They have made many radio and TV appearances, and have addressed sportsmen's organizations, service clubs, educational and youth groups.

—GEORGE FORREST

REAL ESTATE DIVISION

DURING the fiscal year of 1964-65 a wide variety of work has been performed by the personnel of the Real Estate Division, working closely with all other Commission activities, including the many detailed reports constantly being requested by other State and Federal agencies.

Property investigations, agreements, leases, options and acquisition concerned with access areas, streams, new lake sites and existing lakes are the major important functions of this Division, thereby preserving the availability of water access for the future, assuring the public they will have a place to fish and boat.

In land acquisition work, three additional tracts of land were acquired to enlarge the proposed "Colyer Dam," currently under construction in Centre County. This land was acquired with Project 70 monies and Fish Fund monies.

Other land acquired with Project 70 monies included the Monongahela River Access in Washington County and a 67.61 acre access to the Susquehanna River, near Falmouth, Lancaster County.

In Beaver County, a long term lease agreement has been completed with the Borough of New Brighton, providing public access to the Beaver River.

Negotiations were initiated for the purchase of two tracts of land from the Pennsylvania Railroad for Washington County and Beaver County.

Investigations were made and options obtained on the proposed Four Mile Run Dam Site in Westmoreland County.

Cooperative programs with the United States Department of Agriculture, Soil Conservation Service (P. L. No. 566 Projects) include Briar Creek, Columbia County; Middle Creek, Snyder County; Marsh Creek, Tioga County; other areas being investigated include Mauch Chunk Creek, Carbon County; Sandy Creek, Mercer

County; Kaerchers Creek, Berks County and Harmons Creek in Washington County. Additional sites under this program are constantly being reviewed.

Under the General State Authority Program, headway was made on the acquisition of the East Bangor Dam Project in Northampton County. Settlement on seven of the properties surrounding this existing lake has been completed.

Other sites under investigation include East Branch of Martins Creek, Northampton County; Harvey's Lake, Luzerne County and more than ten major springs throughout the State.

—GLEN SPENCER

ENGINEERING DIVISION

DURING the 1964-65 fiscal year some major changes took place in the work of the Engineering Division. The initiation of the huge Project 70 Acquisition Program demanded that the present technical staff spend considerable time and effort on property investigations and evaluations until qualified technical people could be obtained to help carry out this Program.

Also the Engineering Division was assigned responsibility of maintaining all public property owned or controlled by the Commission throughout the Commonwealth. The maintenance personnel, who formerly worked with the Real Estate Division, were transferred to the Engineering Division, and the Maintenance Supervisor relocated his headquarters to the Bellefonte Field Office.

Major development projects completed during this period included work at Mountain Springs, Luzerne County. This development, which was completed in November, 1964, includes six miles of access road, four bridges, public use facilities and renovation of an existing concrete dam which forms a 40 acre fishing and boating lake. Before this project was undertaken, this facility was inaccessible and unsafe for public use. In addition, development of a 25 acre fish propagation lake known as Douglas Pond, located in Wayne County, was completed in October, 1964. This facility will be operated by the Pleasant Mount Hatchery and provides a badly needed warm water propagation lake.

Work was also completed, in August, on construction of 2100 lineal feet of new trout raceways at the Pleasant Mount Hatchery in Wayne County. This new development was the initial segment of the hatchery renovation program, and the completed facilities permit independent control and operation of each raceway section with a minimum of personnel. These units are presently in use and the resulting improvement in trout propagation is very encouraging.

High Point Lake, a 342 acre fishing lake, located in Somerset County was completed in June, 1965. This project, which was developed for the Fish Commission by the General State Authority on a contract basis, provides a huge fishing lake which is readily accessible to



the large population centers of southwestern Pennsylvania. Water is presently being impounded and it is hopeful that this facility will be ready for full public use in the near future.

Contracts were awarded for construction of Hammer Creek Dam in Lancaster County in January, 1965, and work started immediately. This project, which is also being developed for the Fish Commission by the General State Authority, will provide a 106 acre fishing lake upon its completion early in 1966. Work at the end of this fiscal year was about 30 per cent completed.

In October, 1964, construction of Colyer Lake, in Centre County, was begun on a force account basis. This project, which is being developed by Fish Commission personnel, was about 40 per cent completed at the end of the fiscal year and is scheduled for completion early in 1966. The development will provide a 77 acre fishing and boating lake along with the necessary access roads and public use facilities. Many unique fish management devices are included in this project in an effort to provide ideal fishing lake conditions. Some of these features are innovations in design for development of this type.

The maintenance personnel of the Engineering Division maintained 30 public fishing lakes presently owned or controlled by the Commission and more than 90 public access areas. These personnel were also trained and assisted in making major improvements to many of these public facilities. New regional headquarters were established at Tionesta, in the northwest region, and Indian-town Gap Military Reservation, in the southeast maintenance division. Eighteen areas located throughout the

Commonwealth were serviced on a contract basis for the first time in the history of the Commission. The purpose of this plan was to decrease traveling expenses and to permit the trained maintenance personnel to have more time to handle major maintenance requirements and property improvements. In most cases, this plan appears to be improving the overall Commission program.

In addition to the major projects already described, the Engineering Division conducted its access area development program, conducted engineering investigations of proposed acquisition areas, coordinated the work of consulting engineering firms, prepared plans for the General State Authority program, and performed many other duties which are included in the following summary:

Engineering plans and specifications were completed for development of New Brighton Access Area, Beaver County; renovations to Huntsdale Hatchery, Cumberland County; construction of Colyer Lake (Segment II), Centre County; and development of public use facilities at the B & O Reservoirs, in Jefferson County. In addition, plans and specifications for development of Hammer Creek Dam, Lancaster County (GSA 199-6), and East Bangor Dam, Northampton County (GSA 199-8), were completed by consulting engineering firms during this period.

Engineering and topographic surveys were conducted, as required, on all the projects on which design plans were completed.

Property surveys were conducted on Huntsdale Hatchery, Cumberland County; Falmouth Access Area, Lancaster County; Big Spring, Cumberland County; Mancini Lake, Crawford County; Harvey's Lake, Luzerne County; Access Area, Washington County; Keystone Ordnance

Four Mile Run, Westmoreland County; New Brighton Access Area, Beaver County; Briar Creek, Columbia County and Sinking Creek, Centre County.

In addition to the projects having completed plans and specifications, topographic and engineering surveys were conducted on Falmouth Access Area, Lancaster County; Big Spring, Cumberland County; Speers Access Area, Washington County; Canonsburg Lake, Washington County; Corry Hatchery, Erie County; Harvey's Lake, Luzerne County; Youghiogheny Reservoir Access Area, Fayette County; Union City Hatchery, Erie County and New Brighton Access Area, Beaver County.

Preliminary investigations were conducted on Little Salt Lick Run, Cambria County; Robinson Run, Blair County; Roaring Run, Somerset County; Behr's Run, Schuylkill County; Roaring Creek, Columbia County; New Brighton, Beaver County; Rock Run, Indiana County; Straight Run, Indiana County; Kaerchers Creek, Berks County; Briar Creek, Columbia County and Amity Hall Access, Perry County, and other projects located in Lehigh, Berks, Bucks, Delaware, Chester, Cambria, Westmoreland, Potter, Luzerne and Wyoming Counties.

Development of the following projects was completed:

MOUNTAIN SPRINGS LAKE, LUZERNE COUNTY

Access road, parking area, sanitary facilities, boat launching ramp and renovation of existing dam which provides a 40 acre lake.

DOUGLAS POND, WAYNE COUNTY

25 acre warm water propagation lake.

PLEASANT MOUNT HATCHERY, WAYNE COUNTY

2100 lineal feet of new trout propagation raceways.

HIGH POINT LAKE, SOMERSET COUNTY

342 acre fishing lake with boat launching ramps, access roads, parking facilities and sanitary facilities.

WALNUT CREEK ACCESS AREA, ERIE COUNTY

Paved access roads, 200 car parking area, concrete boat launching ramp, sanitary facilities, boat loading and landing dock, and stream and flood control improvements.

Improvements were made at the following access areas:

MUSKRAT SPRINGS, JUNIATA COUNTY

Installation of sanitary facilities.

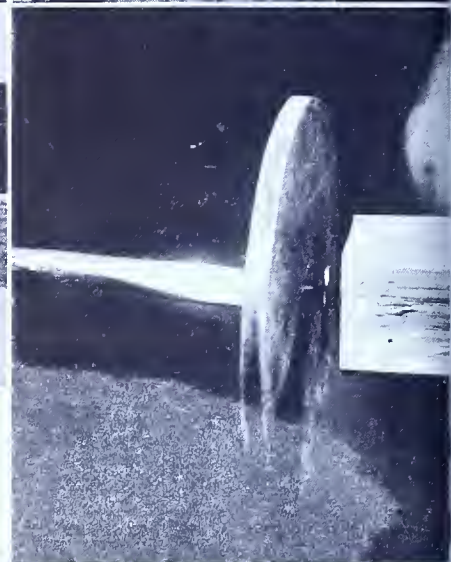
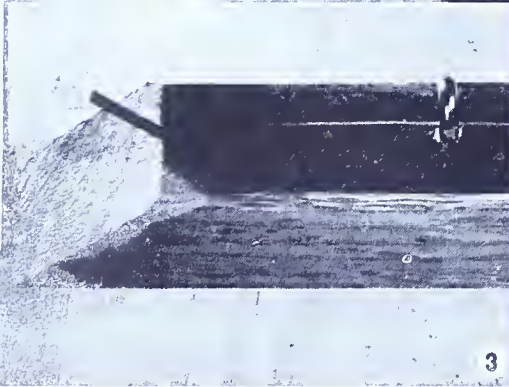
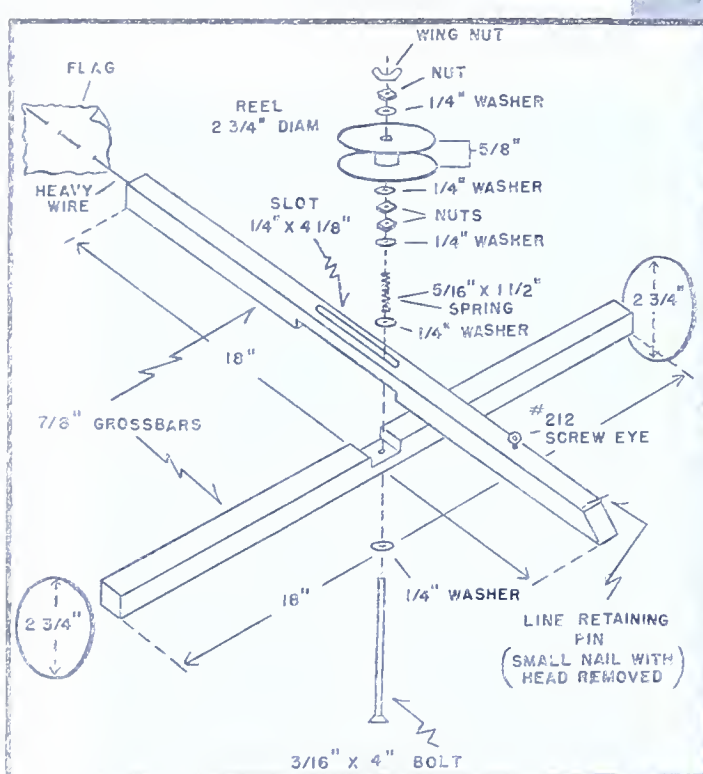
DUTCH FORK LAKE, WASHINGTON COUNTY

Installation of sanitary facilities.

Other major projects included review of plans for all highway construction projects within the Commonwealth; remodeling southeast regional office building at Indian-town Gap Military Reservation; emergency repairs to Hunter's Lake, Sullivan County; preparation of plans for development of the Brookville Fish for Fun project; preparation for plans for remodeling northwest regional office at Tionesta; construction of prefabricated toilets for future installation on Fish Commission projects, and the Engineering Division personnel also served as consultants and assisted other Divisions in the maintenance and operation of Fish Commission facilities.

—ERWARD MILLER





DO-IT-YOURSELF TIP UP

*Here's low-priced answer
to successful ice angling*

Simple construction makes this a natural for a bad-weather week end. Start by making a spool (1) from masonite circles 2 3/4 inches in diameter, fastened with small nails to each end of a 1-inch length of dowel.

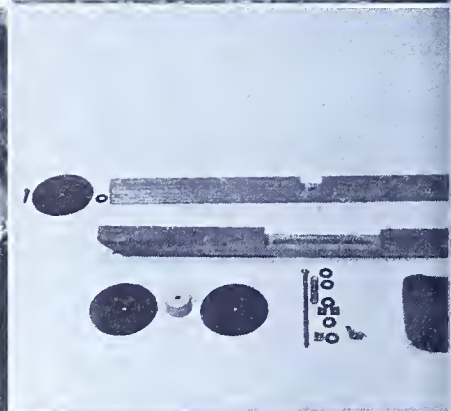
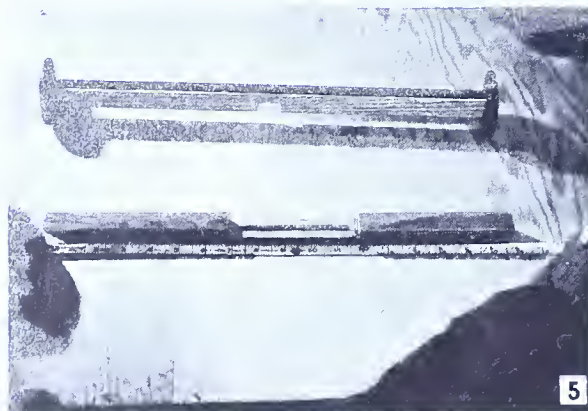
Cut a slot in the main beam (2) after drilling holes. A nail with the head removed (3) will hold the line while rig is set. Screw eye is only a line guide.

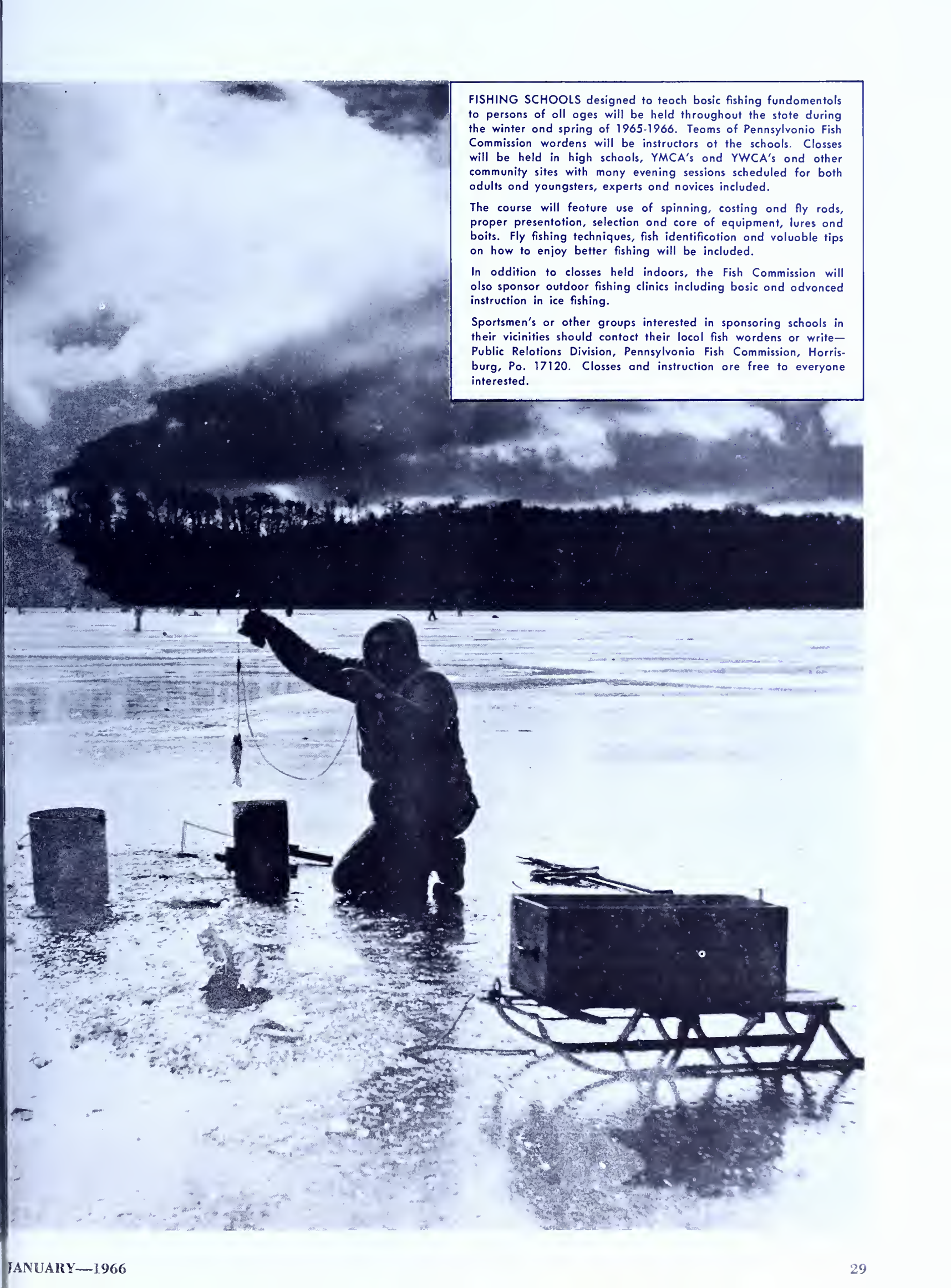
Fasten both wheels on the cross beam (4) with 3/4-inch screws, using washers inside to insure easy turning. The slip-slot on the main beam (5) should be off-center and about 5 inches long.

All materials needed for one tip up (6) will cost about 25¢ if bought at the store. Wood and some hardware can probably be found around the house to reduce the cost even more.

When completed (7 and 8), tension on spring holds cross beam but allows for sliding adjustment to counterbalance the weight and line under the ice. Spool should turn freely so fish can't feel resistance on the line.

Set rig has the line looped around the headless nail. When fish strikes, the main beam is pulled down into the spudded hole, the line slips off the nail, and the flag alerts the angler.





FISHING SCHOOLS designed to teach basic fishing fundamentals to persons of all ages will be held throughout the state during the winter and spring of 1965-1966. Teams of Pennsylvania Fish Commission wardens will be instructors at the schools. Classes will be held in high schools, YMCA's and YWCA's and other community sites with many evening sessions scheduled for both adults and youngsters, experts and novices included.

The course will feature use of spinning, casting and fly rods, proper presentation, selection and care of equipment, lures and baits. Fly fishing techniques, fish identification and valuable tips on how to enjoy better fishing will be included.

In addition to classes held indoors, the Fish Commission will also sponsor outdoor fishing clinics including basic and advanced instruction in ice fishing.

Sportsmen's or other groups interested in sponsoring schools in their vicinities should contact their local fish wardens or write—Public Relations Division, Pennsylvania Fish Commission, Harrisburg, Pa. 17120. Classes and instruction are free to everyone interested.

1866



1966

7-21
CENTENNIAL 1866 - 1966

Pennsylvania ANGLER

FEB 14 1966

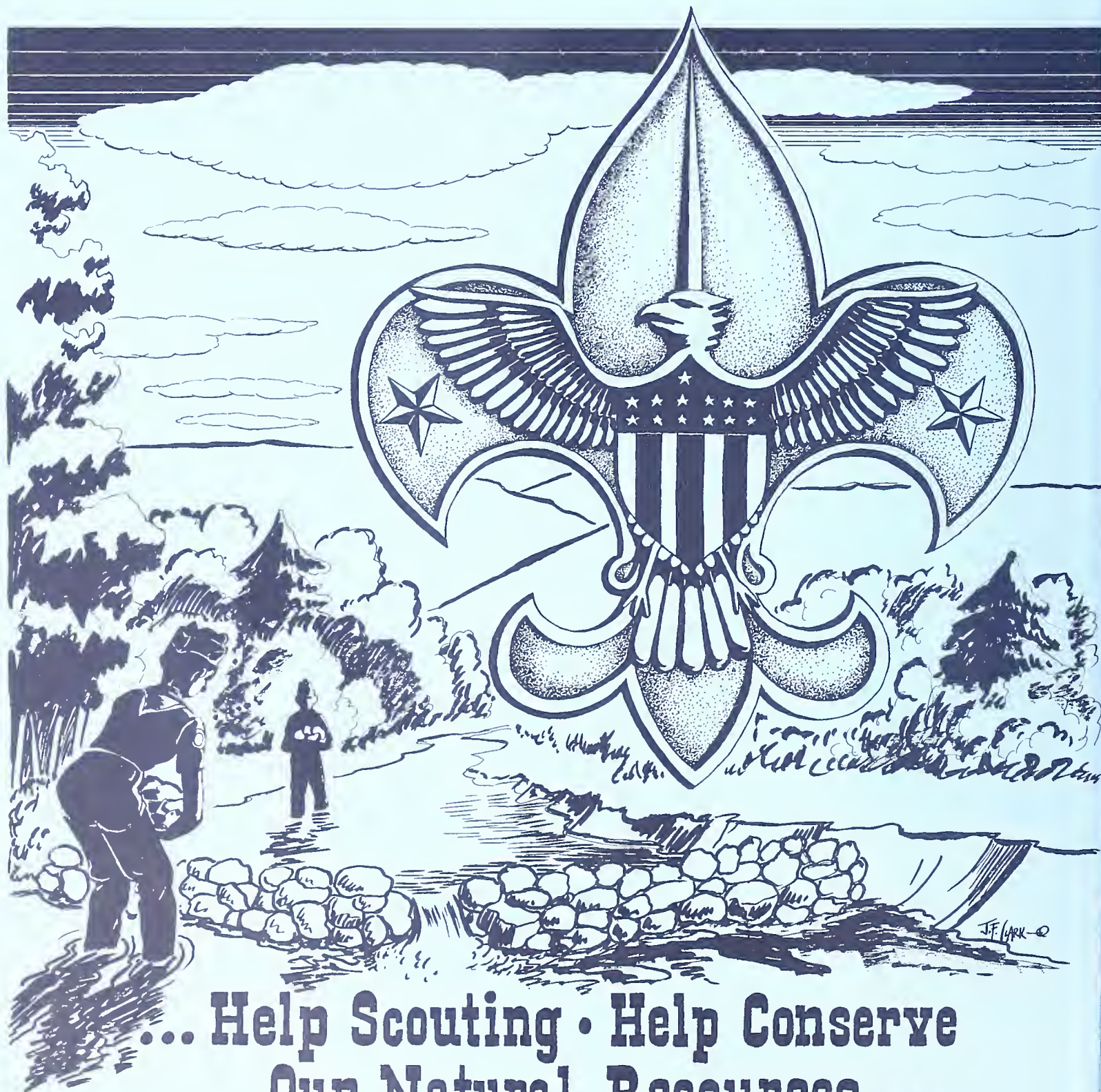


FEBRUARY 1966

PENNSYLVANIA FISH COMMISSION'S OFFICIAL FISHING AND BOATING MAGAZINE

NATIONAL Boy Scout Week

February 7-13



... Help Scouting • Help Conserve
Our Natural Resources ...

**PENNSYLVANIA
FISH COMMISSION
DIRECTORY**

EXECUTIVE OFFICE

ROBERT J. BIELO
Executive Director

GORDON TREMBLEY
Assistant Executive Director

EDWARD R. THARP
Assistant Executive Director
Watercraft Safety

WARREN W. SINGER
Assistant to Executive Director

PAUL F. O'BRIEN
Administrative Officer

JOHN M. SMITH
Comptroller



DIVISION DIRECTORS

KEEN BUSS
Research and Fish Management
R. D. 1—Box 200-C
Bellefonte, Pa.—16823

HOWARD L. FOX
Propagation and Distribution
Bellefonte, Pa., R. D. 3—16823

GLEN SPENCER
Real Estate
Harrisburg

EDWARD MILLER
Engineering
Bellefonte, Pa., R. D. 3—16823

WILLIAM W. BRITTON
Law Enforcement
Harrisburg

ARTHUR BRADFORD
Pathology
Bellefonte, Pa., R. D. 1—Box 200-C
16823

GEORGE FORREST
Public Relations
Editor
Harrisburg



REGION ONE

S. CARLYLE SHELDON Warden Supervisor
Tionesta 16353 Phone: 814-755-8811

REGION TWO

JOHN I. BUCK Warden Supervisor
R. D. 2, Somerset, Pa. Phone: 814-445-4913

REGION THREE

CLAIR FLEEGER Warden Supervisor
351 Terrace St., Honesdale, Pa.,
Phone: 717-253-3724

REGION FOUR

HAROLD CORBIN Warden Supervisor
R. D. 2, Annville, Pa.,
Phone: 717-273-2601, Ex. 86
I. G. M. R. 17003

Pennsylvania Angler

Published Monthly by the
PENNSYLVANIA FISH COMMISSION
COMMONWEALTH OF PENNSYLVANIA

William W. Scranton, Governor



PENNSYLVANIA FISH COMMISSION

ROBERT M. RANKIN, President Galeton
HOWARD R. HEINY, Vice President Williamsport

GERARD J. ADAMS Hawley
JOSEPH M. CRITCHFIELD Confluence
WALLACE C. DEAN Meadville
RAYMOND M. WILLIAMS East Bangor
JOHN W. GRENOBLE Carlisle
DOUGLAS McWILLIAMS Bear Gap
R. STANLEY SMITH Waynesburg

FEBRUARY, 1966



VOL. 35, NO. 2

Contents

- 2 THE FISH COMMISSION AT THE COLUMBIAN EXPOSITION
- 4 JIG-FISHING COMES OF AGE—Don Shiner
- 7 ANGLER'S SHOPPE—Don Shiner
- 9 MOBY DICK WEATHER VANE—Hi Sibley
- 10 BIDE A WEE—Al Shimmel
- 12 GETTING DOWN TO TROUT—A. I. "Pal" Alexander
- 16 BOATING WITH ROBERT G. MILLER
- 18 MODERN CAMPING—Del and Lois Kerr
- 19 MIDGES—FOR TOUGH TROUT, Part II—Ed Koch
- 22 NOTES FROM THE STREAMS
- 28 TIP-O'-THE-MONTH—C. Boyd Pfeiffer
- 29 SCHOOL'S OUT—Ned Smith

Cover art by Ned Smith

POSTMASTER: All 3579 forms to be returned to Dunlap Printing Co., Inc., Cherry and Juniper Sts., Philadelphia, Pa. 19107.

The PENNSYLVANIA ANGLER is published monthly by the Pennsylvania Fish Commission, South Office Building, Harrisburg, Pa. Subscription: One year—\$2.00; three years—\$5.00; 25 cents per single copy. Send check or money order payable to Pennsylvania Fish Commission. DO NOT SEND STAMPS. Individuals sending cash do so at their own risk. Change of address should reach us promptly. Furnish both old and new addresses. Second Class Postage paid at Harrisburg, Pa., and at additional mailing offices.

Neither Publisher nor Editor will assume responsibility for unsolicited manuscripts or illustrations while in their possession or in transit. Permission to reprint will be given provided we receive marked copies and credit is given material or illustrations. Communications pertaining to manuscripts, material or illustrations should be addressed to the Pennsylvania Fish Commission, Harrisburg, Pa. NOTICE: Subscriptions received and processed the 10th of each month, will begin with the second month following.

The Fish Commission at the COLUMBIAN EXPOSITION

This is the season of the year when thousands of persons visit the Pennsylvania Fish Commission's exhibit at the Pennsylvania Farm Show, and the major sportsmen's shows throughout the state. With a few exceptions, the exhibit is displayed at various functions within the state, however, according to an article taken from the Report of the State Commissioners of Fisheries for the years 1892-93-94, "Among the acts of the Legislature of 1892-93 was an appropriation of \$8,000 to the Pennsylvania Fish Commissioners in order that they might make a creditable exhibit of its work at the Columbian Exposition in Chicago. As soon as the measure became a law, the Commissioners began to prepare for an exhibition which would be a credit to themselves and the great Commonwealth which they represented. A kite-shaped space of 1701 square feet was allotted them in one end of the Fisheries building adjoining the space given the state of Wisconsin. Contracts were made for a number of aquaria of French plate glass and iron with J. W. Fiske of the Variety Iron Works, of York, Pa.; for plumbing with E. Baggot & Son of Chicago, and for decorative work with J. J. Stoberniche & Son, of Philadelphia. The management of the whole exhibit was placed by the Commissioners in the hands of Col. John Gay of Greensburg. When the exhibit was in place there was an artistic presentation which for the money expended, in the opinion of many, rivalled the work of some of the other states whose commissioners had at their command nearly or quite double the funds of the Pennsylvania Commissioners.

"The entrance to the exhibit, which was at the narrow end of the kite-shaped space, was surmounted by a cedar and oak bark rustic arch, bearing the Keystone State coat of arms. Directly inside the inclosure were two limpid pools of water fed by the streams of a waterfall which fell from among a realistic grouping of rocks, moss, fern and plants covered to the top of the exhibit. Within the two pools, connected by a model of the Roger's fishway, were many small fish and the ease with which these finny inhabitants of the water constantly passed from one pool to another by means of this ingenious contrivance was a perfect object lesson of its utility.

"In front of the lowermost pool were models of the State hatcheries at Allentown, Corry and Erie, and the sides of the arch at the entrance were ornamented with large photographs of the interior and exterior of the hatcheries and by fifteen beautifully executed colored drawings of fish which frequent the waters of the State.

"Behind the waterfall and under the bank over which it tumbled was constructed a tunnel, lined with oak bark and adorned with twisted laurel roots and in the sides were arranged part of the 20 aquaria containing the various food fishes of the State. The only light in the tunnel was that which came through the waterfall, and through the water of the aquaria; thus the movements of the fish as they swam about could be observed to the best advantage. There were altogether twenty aquaria, the largest of which were each six feet long and three feet deep, and the water which sustained the fish life within was all filtered lake water and constantly changed.

"The aquaria around the sides of the exhibit, like those in the tunnel, were with the exception of their faces, buried within masses of oak and cedar bark, so that the machinery of the exhibit was hidden from the view of the visitor. In the aquaria were shown trout from all ages from babyhood to maturity. There were brook trout, brown trout, California trout and a few hybrids. There were besides five specimens of nearly all the valuable food fishes which thrive in the fresh waters of Pennsylvania.

"To keep these fish alive and healthy was one of the most difficult tasks of those entrusted with the care of the exhibit. The least carelessness in handling or any abatement of vigilance in other particulars would result in the appearance of a fungus on the eyes and bodies of the fish, which, unless checked would speedily cause their death. It is to the credit of those in charge that there was comparatively little mortality from this cause, and in consequence, the Pennsylvania exhibit was particularly noticeable for the fine, healthy appearance of the living fish in the aquaria.

"In a little corner back of the exhibit was the office of Col. John Gay and his two assistants, Mr. Buller and Mr. Brady.

"For visitors to the World's Fair who were particularly interested in the work of fish culture, the Commissioners employed Mr. William E. Meehan, an associate editor of the Philadelphia Public Ledger, to compile a pamphlet on the 'Fish, Fishing and Fisheries of Pennsylvania.' This pamphlet was profusely illustrated and gave an interesting history of the Indian methods of catching fish; the causes which led to the depletion of our streams of their most valuable food fishes, and an exhaustive account of the work of restoration by the Fish Commissioners."

PENNSYLVANIA FISH COMMISSION EXHIBIT COLUMBIAN EXPOSITION



Jig-Fishing Comes of Age

By DON SHINER



ICE-FISHING is attracting vast numbers of anglers each winter. The majority are swinging toward "jig-fishing" method.

FISHERMEN dressed in warm winter duds dotted the ice bound Hunters Lake in northcentral Pennsylvania like mesquite plants in a glaring white desert landscape. Most were jig-fishing. They stood beside ice holes, or squatted on sleds or seat warmers, in closely knit circles, jigging lines in freshly chipped holes while biding time swapping yarns or grilling steaks. A variety of fish—trout, pickerel, perch, bluegills—lay frozen like chunks of firewood on the ice beside the fishermen. Most used odd-shaped jig sticks, many of home crafted designs, to manipulate baits through the ice holes. I marveled that jig-fishing had, indeed, come of age.

To be sure, some ice-fishermen huddled near smoking wood fires on shore. They squinted through binoculars and spotting scopes at far off ice-holes rigged with tip-ups. Every now and then one or two men would get up from their comfortable fireside seats to dash across the ice. If they arrived in time, a fat pickerel or trout soon flopped on the winter blanket.

The vast majority of ice-fishermen on the ice this day conformed to a definite pattern, which indicated that a swift shift in ice methods has come about in recent years. The shift is away from the old, reliable tip-up rigs toward

the newer jig-fishing method. At least this swing is noticeable in the folded Appalachian ridge section, located between the Blue Ridge on the east and the Appalachian Plateau on the west.

This shift toward jigging as the most popular form of ice fishing stems, in part, from the phenomenal catches of fish, coupled to the variety of new equipment that has only recently, say the last five or six years, become available. I'm referring to the Korean type insulated boot, the light weight quilted and warmly insulated coat, portable charcoal grill, variety of jig rods currently on the market, namely the "Pimple Pole," and lastly, the infinite array of excellent ice-lures. On the surface one would hardly expect this equipment to revolutionize winter fishing, nevertheless a quiet evolution has taken place. Consider these facts.

Old fashion felts worn beneath arctics keep feet fairly warm on winter ice. Red plaid deer hunting outfits proved standard attire too. Still, ice fishermen found it necessary to retreat to roaring shoreline fires to thaw the chill. From this remote station, they used binoculars to survey the ice to keep tabs on tip-ups and ice holes. It was a mad dash to get to the hole whenever a flag snapped upward

to wave in the cold breeze. Sometimes a late arriving angler would find that a pike made off with the minnow bait without getting hooked. Or a yellow perch too small to get the minnow in its mouth properly, caused the flag to spring upward. There are other problems too with tip-up fishing, such as scouring the winterfied landscape for suitable live baits.

Modern jig-fishermen have apparently overcome the disadvantages associated with the older style tip-up fishing. For example, insulated boots, many guaranteed to keep toes warm as toast at temperatures far below zero, let fishermen stay out on the ice most of the day. Gone is the need for periodic toe toasting besides shoreline fires. Light weight quilted, insulated jackets and underwear of similar material also add to the iceman's comfort. The portable charcoal grill, hauled directly out upon the ice and parked beside the ice hole, serves as a dandy hand-warmer and permits grilling hamburgers, coffee, soups, even fish fries for a full course meal. Again there is no need to dash shoreward for these tasty snacks which often continue throughout the day, due in part to the brisk winter air.

Time weighs heavily with fishermen who spend most of their time on the ice. Preferring to be active, rather than passively waiting for tip-ups to spring into action, they have turned their attention to handline fishing or jigging as it is generally known. They walk from one ice hole to another, jigging a polished spoon into the dark water. In a sense they go after the fish rather than await a chance bite on the baited tip-up. By constantly changing location, the schooled fish are eventually located. Action is fast. Fish are pulled topside. When school moves elsewhere, it is a search and jig deployment to other ice holes to encounter the school again. The result is that most jiggers make remarkable catches of winter fish.

Early forms of jig-rods took on a variety of shapes, as varied as there are fishermen. Most used old fly rod joints or spin-poles equipped with conventional reels. Both reels and guides malfunctioned due to heavy coatings of ice. This summer gear was gradually discarded in favor of the specially adapted jig-stick. One design that has caught on fast is the "Pimple Pole," one of the few commercially made rods of ingenious design. This hand rod has a hollowed out handle which serves as a convenient storage box for spoons, split shot, ice flies and hooks. A short, light weight tip, with line storage block, swings away from the handle to provide a short, sensitive jig-stick.

Coupled to these ice-rods are a wonderful array of lures made especially for winter fishing. Weighted trout flies, and the highly polished spinning-size spoons and spinners prove real fish takers. One such spoon, known as the "Swedish Pimple," has made phenomenal catches of trout, walleye and pike.

This spoon originated in the Bay De Noc area of Michigan, an Upper Great Lakes region where ice-fishing has become a way of life for the majority of residents. With the chief occupation being the mining and shipping of taconite iron ore, this business comes to a virtual standstill when the Great Lakes blanket under winter ice.

This seasonal employment aims the working force toward ice-fishing with the result that it has become the Upper Lakes region's chief form of recreation.

Four young fishermen in that area banded together to set up shop to produce suitable ice lures. One of their experimental lures, dubbed the "Swedish Pimple," produced extremely fine catches. The four fellows began turning out the "Pimple" in quantity. Its popularity has since spread like wild fire to far reaches of the continent, wherever ice fishermen gather.

The name is a misnomer. The lure has no resemblance to a pimple which you and I know to be a blemish on the skin. Rather, this highly polished metal spoon resembles many elongated lures, but has an unusual weight placement in the center, thereby giving the lure a unique wobbling, wiggling action in the water. This lure, as are other jig-baits, is manipulated with an up-and-down motion through the ice hole. The unique action, coupled to its bright reflective surface, causes the lure to be irresistible to game fish.

This day on Hunters Lake, and elsewhere in the Appalachian folds, jig-fishing proved by far the most exciting form of winter fishing. This greatly simplified winter tackle is less costly and produces fish. Couple these advantages of tackle to the portable charcoal grill and newer cold weather clothing, and it becomes clear why jig-fishing has now come of age.

Newcomers to the current ice-season will want to investigate this exciting method of fishing through the winter ice.



THESE "SWEDISH PIMPLE" lures are the rage among winter fishermen in upper Michigan.

ICE FISHING JIG RODS



THIS IS THE POPULAR "PIMPLE POLE" used by many jiggers on the winter ice.



ANOTHER VERSION of the "Pimple Pole" is a collapsible, pocket size rod.



THE HOLLOWED OUT HANDLE serves as a storage box for extra lures, hooks and sinkers.



THE TINY ROD folds up into a pocket-size article.

ANGLER'S SHOPPE

HAVE you hesitated getting started tying fishing flies, fearing you may not like this hobby, and then have a sizable group of tools and feathers on your hands? In the first place, who led you to believe that the fish fly hobby requires a heavy investment, or that you need buy anything to make this initial step? Chances are good that you already have the tools and materials lying about the house. You can use these makeshift articles for an initial fly session and turn out some good streamers and/or wet flies.

To begin with, the vise is the indispensable tool in fly tying. This gripping instrument holds the hook firmly, freeing your hands to wind the feathers, fur, and bits of yarn into place. You surely have a mechanic or carpenter tool in the basement workshop that can do this chore. How about a mechanic bench vise, vise-grip pliers, C-clamp, or any one of a half dozen other tools that has jaws capable of gripping a fish hook? These fix-it tools will readily serve in the capacity of a fly vise to get you started in this interesting, if not downright fascinating, fish fly hobby.

Round up manicure scissors, spool of nylon sewing thread, pieces of wool yarn from your wife's knitting basket, and remove a few feathers from your wife's bonnet that style-wise is passé. You now have the makings of trout/bass flies.

To show what can be done with handyman tools, we assembled a typical array of tools that form a part of every workshop. These included the bench vise, vice-grip pliers, several styles of C-clamps, adjustable wrench, side cutters and regular pliers. We tied a bucktail lure, using a different fix-it tool at each step in the fly assembly. We started with a big bench vise, progressing through the assortment from side-cutters to C-clamp.

The tools did a remarkable job pinch-hitting for a conventional fly vise. During this initial test run, we tied a big bucktail on a No. 6-4X long shank hook. Then we tied a No. 10 wet fly, a style of lure that is a bit more involved to assemble. Smaller flies, tied on No. 14's and upward to 20's, would be a little more difficult to assemble with these mechanic tool fly vises, but with a little patience, it could be done.

The point we are stressing here, is that fishermen who have had a yen to commence tying fishing flies, but hesitate investing in tools and fly materials, or can't squeeze the cash from the already burdened family budget, should improvise, using workshop tools for this initial test.

Once this initial aptitude test clearly shows an interest and talent in this gem-of-a-hobby, then it's time enough to spend ten bucks for a good fly vise, and an assortment of materials.

Meanwhile, what about those materials? Here again, there is no expense involved with this initial experiment. Untold amounts of feathers, furs and tails—really quality materials—are bagged by hunters in the field. Feathers from wild turkey, grouse, ringneck pheasant, mallard duck, to name a few game fowls, are all ideally suited for fishing flies. Likewise with fur. That fur from the cottontail, fox, deer and squirrel are the best that can be had for feathered lures. Indeed, some of the patterns, famous the world over, are made from these exact wild feathers/fur. Throw in some neck feathers from a domestic rooster, wooly yarn from an old pair of hand knit socks, and the neophyte is as well equipped as the gent who has dressed fish hooks for years.

Convinced? Then let's say a few words on the utter simplicity of tying that first fly.

A typical fish fly—bucktail, streamer, wet fly, dry, nymph, wooly worm or other—amounts to merely thirty or forty winds of thread to hold bits of feathers-fur-yarn to the hook.

The initial step involves clamping a large hook in the jaws of one of the aforesaid fix-it tools. Knot a two-foot long piece of sewing thread to the hook shank. Use silk floss or wool yarn for the body of this initial fly. Hold the free end of this material on top and parallel to the shank, and wind the tying thread over the yarn and the hook. When the wool material is fastened in place, begin to wind the yarn spirally around the shank, to within a quarter inch of the hook eye. Now wind the sewing thread over the hook and loose end of the yarn to prevent the latter from unraveling.

Now for the wings. Hold two or four hackle feathers, or a bundle of hair (bucktail is fine) on top and parallel to the shank. Wind the sewing thread over this material, binding it securely to the hook at the area where the body material ends.

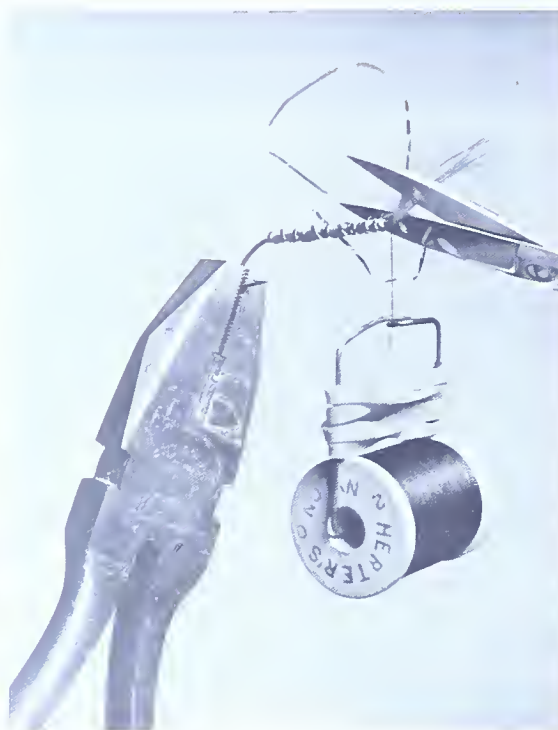
You may wish to get fancy, adding a second material as topping over this original wing. You may also want to tie some fibers beneath the eye to serve as "gills" on this streamer. Whatever the case, wind the sewing thread over all loose material ends, gradually building a nicely tapered head. Tie several half-hitches in the thread, add a touch of lacquer or glue to the knot, and the bucktail fly is completed. Now that wasn't difficult!

There you have it, the essence of tying fish flies. You have tools in the basement, feathers in the attic, and hooks in your fishing box. So why not join the feather-fishers? Spend an hour or two experimenting. Bet you, like the rest of us, will become so enthralled with this feather bundling, that you'll spend half the winter tying old faithful patterns and invent some fly patterns of your own. By the time spring fishing season rolls around, you'll be as well equipped with fish flies as any jobber. Another discovery comes later. When you manage to sock steel into a hefty trout, you'll discover the fun you have missed all these years.

Get started dressing your own fish hooks. Give yourself an aptitude test by using the tools scattered on your fix-it workbench.



A husky bench vise is capable of holding the hook securely thus freeing your hands for the tying operation. Silk floss is being tied to the hook shank for the fly body.



Pair of side cutters now holds the hook as surplus material is cut from the fly body.



Husky vise-grip pliers hold the hook as we add a bundle of fur to serve as wings on the streamer.



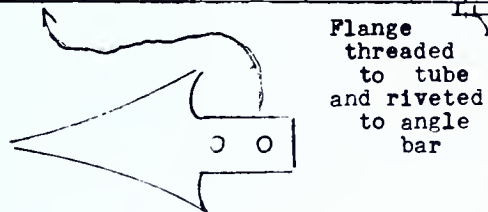
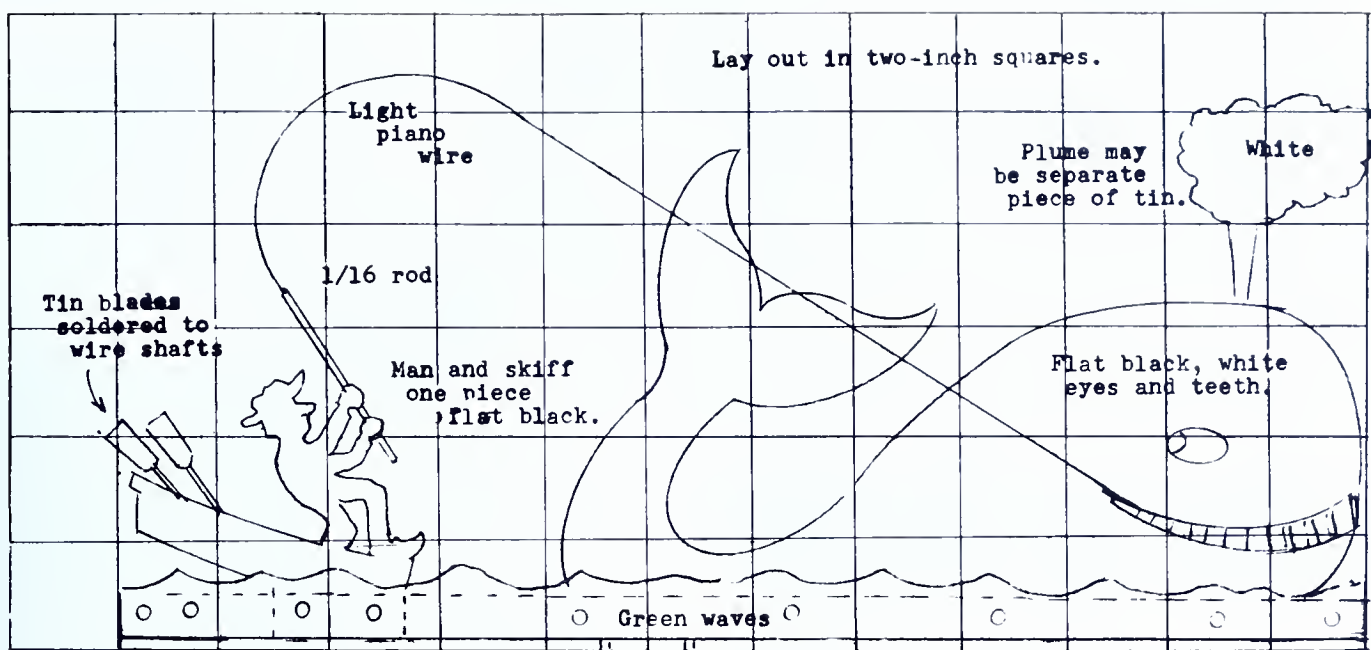
Vise-grips again hold the hook as peacock tapping and a fancy feather are tied in place, the latter to serve as a "cheek" or gill.



A big C-clamp now holds the streamer as we use the whip knot to finish off the thread wrapping.



Finally, clear nail lacquer is painted over the fly to prevent the thread from unraveling.

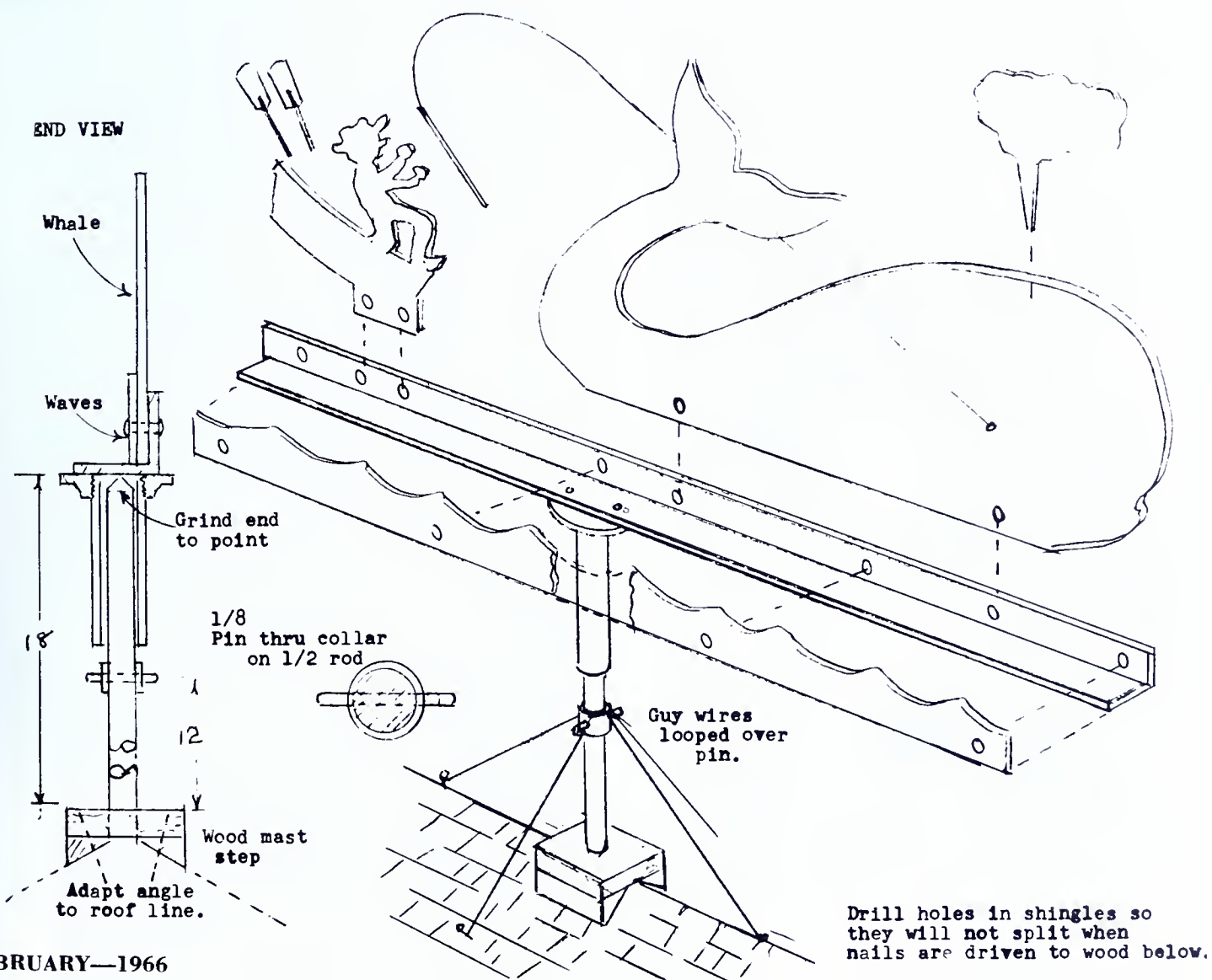


MOBY DICK WEATHER VANE By H1 Sibley,

All dimensions in inches.

Cut whale and man from aluminum sheet or 1/8 tempered hardboard. For the former use a fine-tooth metal-cutting blade; on a jigsaw. For hardboard, the same. if power saw not available, a coping saw will do the job. Rivet all parts to an aluminum angle bar, 3/4x3/4x1/8.

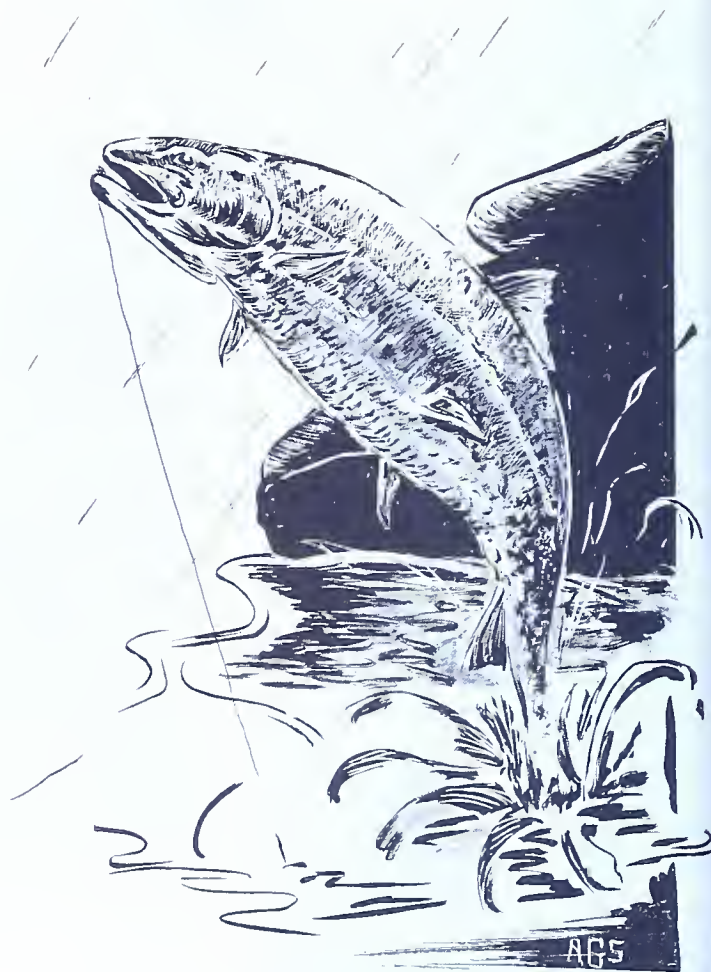
Note that weight is carried on pointed end of mast so that vane turns in very light breeze.



AND

bide a wee

By AL SHIMMEL



FATHER WALTON characterized angling as the contemplative man's sport, thus classifying anglers among those individuals that normally are less active and less ambitious than their contemporaries. Artists have used their artistic license to further defame the angler with paintings of pastoral landscapes including dreamy skies, shady trees, softly flowing streams and reclining figures of rotound proportions, drowsily watching a propped rod.

While it has been proven that the pursuit of the finny tribes has less hazard than crossing a busy intersection at noon or bucking the free-way traffic during a summer weekend, I resent the implication that the practice of the angler's art is entirely free of risk and that anglers are lazy individuals of portly frame.

A lady guest at a luncheon meeting of outdoor authorities, many of whom were anglers, observed to a feminine friend that it was about the leanest, hungriest and handsomest group of males that she had observed in a long while. With this statement we dismiss Father Walton and the artists of the past.

There are times when the angler is exposed to dangers and difficulties while practicing his art. Whether the elements turn out to be tragic or merely remembered experiences, many of them with a touch of humor, may be avoided in most instances by taking the necessary precautions. Occasionally the incidents are dictated by circumstances beyond the angler's control but these are few.

One such incident frightened me considerably. It was mid May. With a companion I was fishing one of the

long Moshannon flats. The water was somewhat over our knees with here and there a deeper pocket that had been dug by the current around partly submerged boulders. Alders grew in a solid wall along both banks. My partner was wading one bank while I followed the other. There was a good hatch coming off the water and the trout were cooperating beautifully. We had proper flies and had no thought except the business at hand. Suddenly a deer came sailing over the alders and landed in the stream so close that I could have touched it with my hand. I ducked so emphatically that I was wet to the waist. Two others followed in rapid succession, fortunately a bit upstream from my position. They were close enough that I was thoroughly wet from the splashes they made when they struck the water. They dashed across, paying no attention to my friend, bolted through the alders and bounded up the hillside. Although I escaped with no damage except a fractured dignity and a thorough bath, I will skip the pleasure of observing the ventral surface and sharp hooves of deer, within inches of my head . . . especially if the animal is frightened.

Among my angler acquaintances is a man with whom I have associated for many years. I had the pleasure of introducing him to the sport and he became an ardent follower of Father Walton immediately. I say man because he is above six feet in height and well over two hundred pounds in weight. Being above middle age he is obliged to wear corrective lenses and has the habit of tilting his head back and to one side as he follows a

floating fly. This habit keeps him somewhat off balance. He was standing a few feet from the bank reaching for a good fish that was hidden under an overhanging branch. He managed a backhand cast that dropped the fly at just the right spot and when the trout struck it jumped very near the brush. My friend stepped backward and stumbled on the slippery, glass smooth cobbles. Fighting to avoid falling, he stumbled backward and fell full length on the sod. He escaped with nothing more severe than a wrenched back and a broken rod. I shudder to think what might have happened had he fallen on the loaf sized cobbles that lined the shallows.

A lady angler of my acquaintance was less fortunate. With her husband she was accustomed to fish a fast slippery stream that flowed through the mountains a few miles from their home. They each had their favorite water and because of the smallness of the stream, fished apart from each other. The husband would drop his wife beside the road that paralleled the stream then go on to another part of the stream to fish undisturbed. This routine was followed several times each week during the summer evenings. One night the lady somehow wedged her foot between two stones and fell, breaking her ankle. Fortunately the road was only a few yards above the stream at the point of the accident. She crawled painfully up to the road where her husband found her a short time later. Small wonder that she lost much of her enthusiasm for trout water . . .

A friend with whom I followed the trout for many years felt that trout fishing was the ultimate in sport. He fished from opening morning to closing evening at every opportunity. He spent the time between seasons tying flies and getting his equipment in order for the next campaign.

One day when we were fishing a deep quiet stream I heard his urgent call and hurried up to find him sitting in water up to his ears. Only by tilting his head backward at a sharp angle was he able to keep his face above water. In some manner he had become entangled in a set of bed springs that some misguided individual had dumped into the pool. I had considerable difficulty extricating my friend and was in hearty agreement with his opinion of those responsible for his predicament. His French ancestry may have had something to do with the torrent of eloquence with which he expressed his displeasure.

It was early season. The water was beautifully clear and a bit above normal. These are the days when the trout have not filled out the lankness of winter and the larger specimens have not yet learned caution. The Moshannon split around an island. Against the ledge on the far side was a pool that had been the home of a portly brown during the previous season. If I could cross to the island I felt sure that the streamer I was using that morning would tempt him, however, the channel was barely wadable with hip boots. Common sense advised caution, but what angler is sensible when the big trout are on the prod?

I looked the water over carefully and decided the best place to cross was the shallows just at the head of the island. Cutting a stick for a wading staff, I made my way cautiously through the deeper channel. Although I had to struggle to keep my footing, all went well until I ap-

proached the far bank. Here a flat rock lay about a foot under the surface. It seemed a made to order step. I put one foot up on the slippery surface and shifted my weight to lift the other when the current overbalanced me and I fell backward into the stream. The current rolled me over several times before I somehow scrambled back to the bank from which I had started. My landing net was broken and my box of streamer flies was gone. Luckily my rod lodged among the willows below and was retrieved. My body was covered with bruises but I was fortunate to get off so cheaply.

It was growing dark and we had considerable distance to go. The woods path was faintly marked. My partner was ahead going at a good pace and I was following as best I could. He stopped so suddenly that I collided with him.

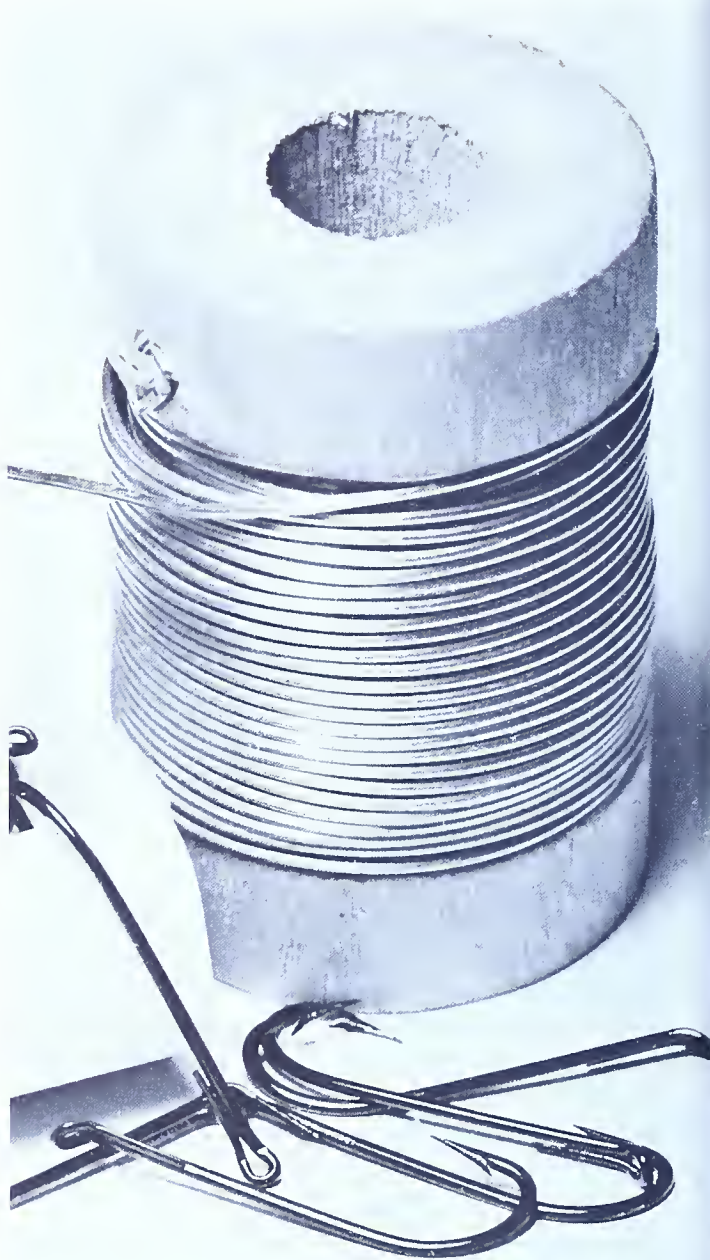
My friend was motionless and I was curious to see why he had stopped so suddenly. The reason was all too apparent. About a dozen feet ahead was a skunk, doing a partial handstand with his artillery aimed in our direction. I froze too. After a few painful seconds of suspense the animal dropped on all fours and moved slowly up the trail still carrying his signal flag at half staff. Every so often he would stop, turn deliberately and measure the interval between us. If he thought we were closer than courtesy required he called a halt. If he was satisfied he moved ahead at a very deliberate pace. He was our guide for most of the quarter mile back to our car. The mystery was solved when he entered a hole under a stump. It reminded me of a very deliberate Scotsman who had a favorite expression when our American impetuosity set a faster pace than he thought was necessary, "Bide a wee". Many of our difficulties would never occur if we followed his advice and moved at a slower tempo.



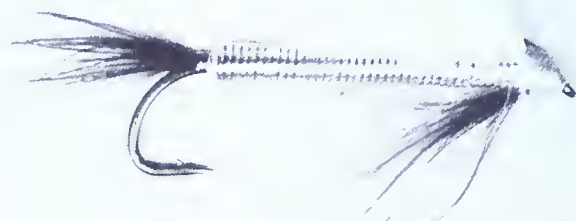
"GETTING DOWN TO TROUT"



TYING sequence of the Wire Body.



CLOSE-UP of soft copper wire and hooks used for tying the Wire B



CLOSE-UP of the wet-fly and streamer-fly versions.

HAVE trouble opening day? Did the kid with the spinning rod and oversized galoshes embarrass you by asking how many fish you caught—and in such a loud voice you couldn't ignore him?

It seems like every opening day, and the first couple of weeks that follow it, are always the same. The streams and rivers are a swollen, roaring torrent, and the trout are sitting on the bottom.

Strange faces, and outfits, are everywhere. Old friends like Epeorus pleuralis and Iron fraudator are nowhere to be seen. It isn't even necessary to remember which vest pocket holds the stream thermometer—not with ice in the guides, it isn't!

This is, perhaps, the most difficult and discouraging time for the fly-fishermen. Sure, there will be other times, later on, when the trout are so extremely selective they could bring Theodore Gordon to tears, and you can't stick a ridiculously small tippet through an eyeless fly in the dark while the trout bomb all around you. This is frustrating, to be sure, but, at least then, you will be alone.

During the first few cold weeks, trout take their refuge on the bottom of the stream, and, as they have all winter, seek their food in the form of immature aquatic insects and small bait fish which are also there on the bottom where the water is warmer.

The experience of the preceding winter months has taught the trout that his food is on or close to the stream bed—and it is there he is looking for it. Because of his reduced rate of metabolism, the trout is not forced to cruise the varying depths of his immediate area to satiate his food requirements. His appetite is now at its low ebb, and he will not become voracious until the water temperature and his rate of metabolism rise. This will occur when the temperature of the water approaches the 50° F. mark. Then, his increased need for food will necessitate covering a wider range of water, including the surface film, providing the delight known as dry-fly fishing.

The fact that trout are relatively immobile in the early spring, and are feeding on the bottom, is readily evidenced by the howling success that bait fishermen have scouring the bottom with live bait.

The usual approach to a stream or river in the spring by the fly-fisherman, when there is no visible activity, is to fish a streamer or wet fly blindly—and hope. Unfortunately, the fly seldom gets within range of the fish. The fly addict isn't confronted with a refusal; his fly isn't even seen by the trout on the bottom.

The conventional wet fly swims too close to the surface, travelling a foot or so down at the most, and frequently not even at this depth.

Selectivity is at a minimum; the problem is to get down to the bottom, and with a reasonably life-like presentation.

As a fly-fisherman and flytier, I experienced and pondered this seasonal plight of the fly-fisherman annually. Finally, after numerous experiments with split-shot on the leader,

lead-wire wraps, sinking lines, and weighted flies, I evolved a reasonable solution.

Does it always work? No, of course not, but, at least, I have a formidable piece of artillery to work with until the water warms up, and more pleasant conditions prevail.

My approach was to tie a deep-sinking attractor fly, which I call the Wire Body, that goes down like a diving bell, in view of those bottom-trout, giving them the opportunity to "take".

The material and tying of this fly are somewhat unconventional, although the materials are readily available, and the tying is quite simple.

The necessary materials to dress the Wire Body are 4/0 yellow tying thread, white rabbit hair, Royal Coachman Brown hackle, and copper wire approximately .016 of an inch in diameter. Copper trolling wire, 18 to 20 pound test, will do. For hooks, use heavy wet-fly hooks in size Nos. 8, 10, and 12 with 2X long shanks. For streamers, use 4X long shanks in the same sizes.

The tying procedure is as follows:

1. Tie in the thread at the eye and closely wind, do not spiral, to the bend. Tie in a few Royal Coachman Brown hackle fibres for the tail. Wind the thread back to the eye.
2. Lay the copper wire along the top of the shank starting a little way behind ($\frac{1}{8}$ ") where the head is going to be. Wind the thread tightly and closely over the wire and back to the bend.
3. Wind the thread back to the eye. Bend the wire sharply over itself and wind closely back toward the eye, stopping where the wire was first tied in. Sever the wire on top of the hook and gently press the cut end to secure it. Lacquer the wire body to resist tarnishing.
4. Build up a gradual taper from the end of the wire to the eye with the thread to provide a platform for the wing. Cut a medium size bunch of white rabbit hair, pulling out any extra long guard hairs, and tie in on top of the tapered thread. Any excess rabbit hair in or around the eye can be neatly disposed of by the judicious use of a red-hot needle.
5. Turn the fly over in the vise, and tie in a sparse beard with a few Royal Coachman Brown hackle fibres. Tie off the head with a whip finish knot and lacquer.

Both the wet-fly and streamer dressing of the Wire Body are light enough to cast easily and heavy enough to sink quickly for the longest presentation to the bottom-feeding trout. Its flashing copper body and the breathing quality of the rabbit hair wing make it a successful attractor, putting the fly-fisherman in the ball game in the early part of the season.

Maybe next spring when the freckle faced kid with the loud voice hails you with, "Hey mister! catch anything?"

You'll have an answer.

COMMISSION HISTORY



Excerpts from the "Report of the Commissioner for the Restoration of the Inland Fisheries for the Year 1870"

"in the early settlements . . . the fishing was so abundant, that it did not seem to be in the power of man to reduce them, and laws in respect to them seemed almost acts of supererogation. But abuses have crept in, and grown to such an extent, that even the most important of all the fisheries along the coast, bid fair to be finally consumed and destroyed.

From the reports of the British provinces, and of all the New England States, and from what we see before our eyes, it seems to be certain, that the production of almost, if not all of our land-locked and migratory—or as it is now fashionable to call them—anadromous fish, has been reduced to the facility of a manufacture.

Ninety per cent of the eggs of trout can be impregnated and raised to maturity, notwithstanding that it takes nearly two months to hatch them. There are establishments rising up all over the country, where trout will live, that actually succeed in that extraordinary proportion, carrying on the affair as a regular mechanical business.

Attention was drawn to this subject by the report of your Commissioner in 1869, and it seems not without some perceptible effect. Trout manufactories are springing up everywhere. All that is wanting is a spring sufficiently copious to supply three successive ponds with water, in such quantity as that the temperature of these ponds will not rise above 60° Fahrenheit, during the summer. This is a rule quite easily understood, and it must be complied with, or there will be failure.

The three ponds are: No. 1, for the troutlings—say little fellows born in the winter, who would be preyed upon by their older brothers and sisters; No. 2—trout of the second year, who, although perhaps not often preyed upon and swallowed, are a tempting morsel for the older ones, and No. 3, a pond for the mature trout—furnishing spawn for the factory, and messes for the table. In the third pond they may be let live for years, until they attain the weight of three and four pounds.

From the lower pond (No. 3) to the head of the spring there is a fish ladder constantly ready for the adults to ascend when under the influence of the propagation instinct; which, as soon as it assumes power, is invariably obeyed, and the males and females ascend to be caught in a convenient reach of the little stream, and be relieved of their respective burdens; not by the Caesarian operation exactly, as Macduff was brought into the world, so that it could not be said of him, that he was "one of woman born,"

but by a very gentle process of manipulation in the hands of an expert; whereby the common product of both the sexes is passed out into a tin trencher scarcely larger than a pie dish, in which impregnation of thousands of the ova takes place, and is effected by a mere movement of the dish similar to that which our grandmothers used to employ to cool their tea in a saucer.

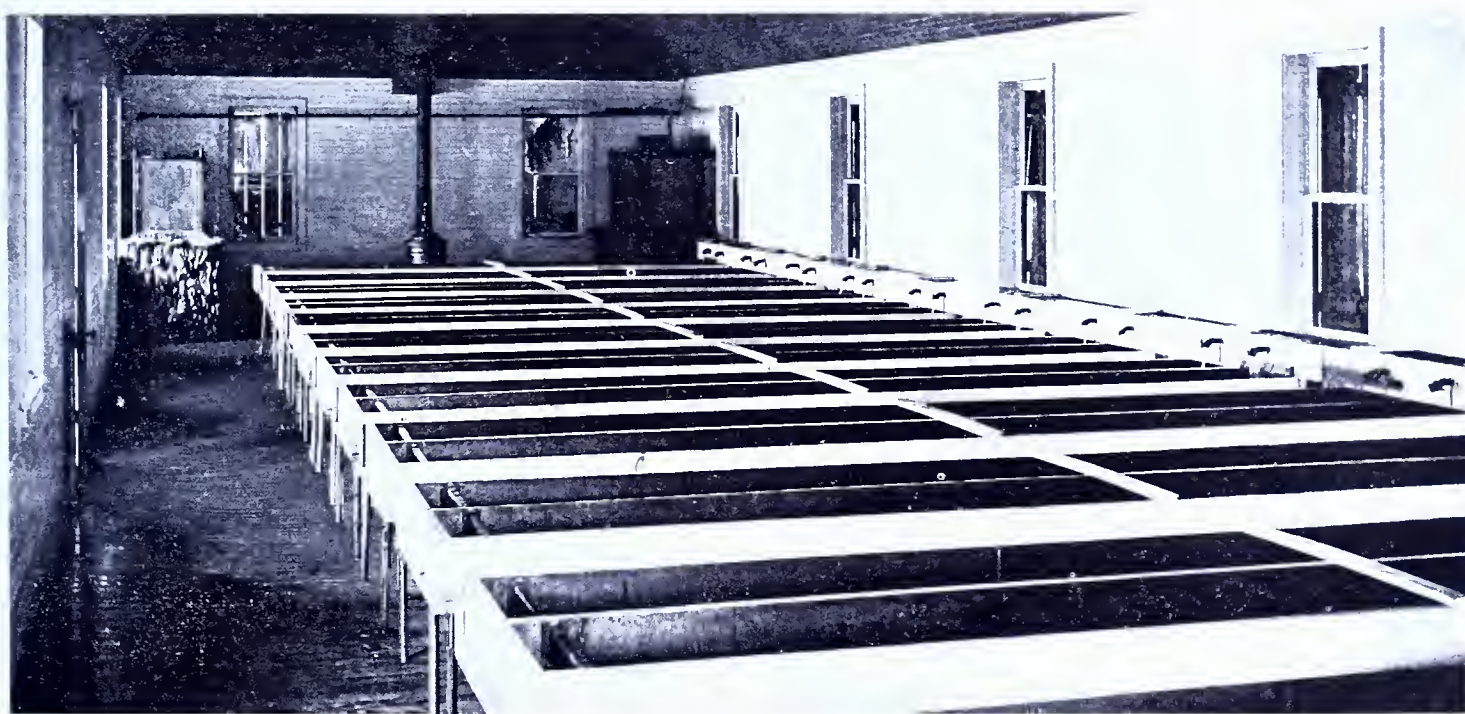
In twenty-five minutes after the commixture of the milt and the roe has been effected in the dish, impregnation is certain, and the ova assumes the form of opaque amber beads about the size of early spring peas. These, so long as they preserve this orange tawny color, are known to be sound. If, however, they become in the least addled, they assume a creamy hue, and must be removed, or the mortality would spread rapidly to the healthy ones. They are then, with the utmost care, handled by extremely delicate and ingenious instruments, and ranged upon rods, a system of glass rods placed just below the surface of the water, the rods being placed near enough to each other so that the ova will not fall through. The water must be kept constantly fresh and at an even temperature between 50° and 60° Fahr.; and in fifty or sixty days the little fry breaks its shell and drops from between the rods into the lower depths of the water in which it is free to paddle about.

For three weeks it is sustained in this water (ever running, ever fresh, pure and cool) by a yoke sack which it brings into the world out of its parent egg, and requires no other sustenance. At the end of that time, however, the yoke sack sloughs off and the perfect troutling is obliged to sustain itself thereafter.

From its cradle or crib trough it is then removed by means of fine dip nets and placed in an artificial running stream for a few weeks more, fed by its proprietor with small quantities of curdled milk or chopped liver, (calves'), until it is deemed to be strong enough to be thrown into pond No. 1; here it finds grass and "small deer" of one kind and another, and is occasionally treated to worms or other food by the owner or custodian of the ponds until the next spring, when it is transferred to pond No. 2, a respectable little "chappy" five or six inches long, full of life and animation. In No. 2 he plays about for a year with his mates, growing in vigor and size until the following spring, when he is allowed to associate with the adults in No. 3, (being somewhat too large for a mouthful), until he is impelled by the instinct of propagation to ascend the ladder toward the place of his birth; there he and his lady love are obliged to submit to the manipulation of the



OLD TIME METHOD handling trout eggs where workers were forced to sit or kneel to do the job. Scene is at Wayne Hatchery.



IMPROVED METHOD had troughs raised as shown in Western Station at Corry, Pa.

expert, and he and she are returned to pond No. 3, to swim about for another year, when they again ascend the ladder toward the breeding reach.

To such perfection has this system of trout breeding reached, that, as has been stated, there are scarcely any failures. I venture to say that in an ordinary manufacture of inanimate things, say in the making of horseshoe nails, there are more individuals spoiled by accident than there are trouts or trout ova killed by the beautiful system of culture now in vogue in many parts of the United States.

This system originated in France, and has been, I think, likely, brought to its present perfection in this country.

There are several establishments of this kind in Pennsylvania, and they are growing every day in numbers.

The cultivation of trout, then, may be said to be thoroughly started, and may be well left to the individual energy and enterprise of the American people—an energy and an enterprise which have never yet failed of success in whatever direction they have turned their hand."

... "The great movement has commenced. Let the streams be prepared. First by protection from piracy, then by opening the dams. Let artificial hatching then be inaugurated and the fisheries of these rivers will yet rank amongst the most valuable of these material interests."

Boating

With Robert G. Miller

SOME folks like to collect stamps, others prefer antiques and there are quite a few who like to build boats as a hobby.

None of these are unusual, as far as hobbies go, but when you tackle a project, or hobby, like that of Frank and Violet Foulk, of New Providence, Pa., you've got something a bit on the unusual side and after two years of work you've got it by the tail and you can't let go.

Foulk is an engineer by vocation, plus a darn good carpenter, but he and his wife have since entered the boat building field. However, instead of starting out small with a package deal, where all you have to do is supply a hammer, screw driver, saw and elbow grease, they began at the other end of the scale and are working on a 51-foot, double cabin, cruiser and a steel hulled one at that.

Consequently, at this stage of the game, when someone else is having a lot of fun fishing one of the two well stocked lakes on their property, Frank or Violet are down in the hold wielding a paint brush or fitting out the interior.

The "VARCLIFF" or "VARCLIFFS," the "S" stands for a daughter-in-law who joined the crew since the boat building project began, had its start around Christmas, 1963, when the Foulks and son, Bud, began purchasing the first material required for construction.

Before that it was a dream for 20 years or more. The Foulks have an unsatisfied interest in boating, in camping out at inaccessible areas, but have never owned a boat of their own and hope their cruiser can eventually become their home away from home.

The "VARCLIFF" is planned along the lines similar to that of a double cabin cruiser shown in a boating magazine ad some years ago and in order to build a hull of similar design they first purchased an inboard cruiser, a wood craft, which has been used as a pattern for the larger craft.

An unsuccessful attempt has since been made to dispose of the original craft so the Foulks are gradually stripping it of any usable equipment which will be incorporated into their new cruiser.

The keel to the new craft was laid, just a few feet from their front door, on April 23, 1964. It is two feet wide, one inch thick and made up into three sections, welded together, for the entire length and stem of the 51 foot craft.

The ribs, made of one and one quarter inch "T" iron and welded at the center to the keel, were slotted and formed

around the exterior of the pattern hull to provide the right shape.

Not being a welder, Foulk has had to call in professional help for this phase of the building program and when it came time to start applying the steel sheeting Mrs. Foulk was on hand to lend assistance. Foulks are using three sixteenth of an inch steel sheeting which measures six feet wide, by 20 feet long.

One end of the sheet was first welded to the bottom of the keel. Then, with a lot of push on the part of Mrs. Foulk, and some pull on the part of a chain hoist, the sheet was gradually worked in against the ribbing where it was first tacked into place before the final weld. This procedure was required for each sheet of steel and a lot of sheets went into the covering for a 51-foot long hull.

Originally the Foulks felt it would take at least three years to complete the craft but they have since found it takes a lot of time and money. Unfortunately the former is easier to come by than the latter and it has become a matter of working when the funds are available.

This is to be a diesel powered craft with two 150 hp engines supplied by four fuel tanks, each capable of containing 250 gallons of fuel. Both engines will be water cooled with the water, after cooling the engines, running through square tubing welded to the exterior of the hull, near the water line, where it will cool from contact with the salt water. On some craft this line runs down and along the keel but in this case it will appear to be a splash rail and easily accessible in case repairs are required.

Each of the two cabins, one forward and the other amidship, will provide about six feet, three inches of headroom; will contain two heads and a galley in the forward section. The forward cabin will be equipped with an air conditioning unit from an automobile.

To eliminate the squareness in the cabin roof design as indicated on the original illustration, Foulke has obtained several station wagon roofs, containing sliding windows, which provide just the right roundness. Since they are not wide enough to cover the craft, from port to starboard, they have been cut down through the center and will be joined by a piece of sheet steel.

The craft is large enough to sleep six but in an emergency it will accommodate at least four more persons, some of whom could stretch out on the aft deck which will be covered with a canvas canopy.

The exterior of the hull was given a coat of black epoxy paint, up to the waterline, and Mrs. Foulk is now spending most of her spare time trowling a fast drying material, similar to that used by auto body men to fill in dingie areas, over the areas where the sheets of steel join.

Foulk's skill as a carpenter now comes in handy. He plans to line the entire interior with wood, part of the forward cabin is already panelled in maple, and this requires a lot of drilling through steel in order to bolt the initial pieces in place.

Frank, Violet and Bud still have a lot of work ahead of them but they are taking their time and trying to avoid as many mistakes as possible so that when Frank retires he'll be able to sit back, relax and enjoy their home away from home.



FRANK FOULK, standing on the metal, circular, stairway he designed; and Mrs. Foulk, seated on the forward deck, show the progress made in construction of their 51-foot cruiser. Photo, looking forward from the aft deck, taken in October, 1965.

Finally got around to having a courtesy inspection made of my craft last summer by the U. S. Coast Guard Auxiliary and can't help but feel a bit proud to have that decal on the windshield.

A cumulative activity summary of USCGA activities, based on the first nine months of 1965, indicates that 153,122 such inspections were made.

A recent release from U. S. Coast Guard headquarters pointed out that almost half of all lives lost in boating accidents are caused by boats capsizing with overloading as the major cause.

As a result the Coast Guard, in cooperation with the boating industry and state boating administrators, has been encouraging manufacturers to affix a boat capacity plate inside the boat to give the operator a good idea just how many passengers and pounds of equipment he can safely carry under normal operating conditions.

Four things to remember when loading a boat are:
1. Distribute the load evenly; 2. Keep the load low;
3. Don't stand up in a small boat; 4. Don't overload.

I might add a 5th point: Don't load the boat to such an extent with equipment that there is no room for the passengers and someone, in order to eliminate a second trip, is allowed to sit up on the bow.

I saw this happen last summer on Lake Clarke and the owner of the craft, a sleek looking inboard-outboard model, promptly received a summons from the watercraft safety officer. Some folks just can't seem to get it through their head that a fall from this point could result in death, or severe lacerations at least, when struck by the prop.

Incidentally, for you folks who haven't gotten around to painting your mooring buoys white with a blue stripe to conform with the uniform marking system, I found on the market a kit for doing this job right.

For a little over \$3 you can buy a can of white styro-



MRS. VIOLET FOULK and son, Bud, of New Providence, Pa., check over the plans for the family's 51-foot steel hulled cruiser which they are building less than 50 yards from their front door. In the background is the wood hulled cruiser purchased for use as a pattern in constructing the new craft. Photo taken during early summer, 1964.

paint, sufficient for several expanded foam buoys, and a blue reflective vinyl stripe with adhesive backing. Drop me a line and I'll let you know where these items can be purchased.

Right now we've got several weeks of winter weather in back of us and not many more to go before the spring launching. Let's get an early start for a change, always operate your craft on the belief that there is a watercraft safety officer a few yards away, and make this an accident-free boating season.

Do this and I'm quite sure the Office of Watercraft Safety, which isn't in business to make arrests, will be well pleased with the results.

MODERN CAMPING

By DEL and LOIS KERR

SURELY everyone by now is aware of family camping. It is recognized as the fastest growing family-participation form of recreation in history. But it may surprise even confirmed, dyed-in-the-wool campers to learn how extensively the sport has taken root here in the Keystone state.

The following information is not drawn from imagination, or even a projected estimate. It is based on fact. *Today, over 200 family-type camping areas are open in Pennsylvania, offering a combined total of well over 13,000 campsites!* As the crow flies, the greatest distance from any point in the state to a public camping area is now a scant thirty-eight miles.

Where are all of these campgrounds? Anywhere and everywhere. They are located along nearly every main highway, perched atop high mountains or nestled in lush, green valleys. A few are right in town (some trailer parks now welcome overnight camping) while others are deep in remote, heavily-timbered forests. Wherever you find outstanding recreation, impressive scenery or points of interest; no matter which direction you travel, you will have a place to camp.

Most people realize that we have thirty-seven state parks which permit camping. National and federal campgrounds make up another small portion. But few people know that the largest number of areas by far are found in the form of private campgrounds. At the time of this writing a grand total of 176 private areas are open for business with more under construction. Before this year is out, the number of private campgrounds alone could well surpass the 200 mark!

Is a private campground an exclusive club-type resort? Absolutely not! The reference to "private" comes from the fact that the campground is owned by a private citizen rather than having state or federal connections. We know owners with professions such as a retired drug salesman, a minister, a newspaper editor, factory workers, etc. But, in nearly every case, the owners are also campers with years of experience and have constructed their areas according to campers' needs.

The rate is slightly higher than state parks, usually \$2.00 to \$2.50 per night. The benefits are also greater. Most areas have flush-type sanitary facilities, hot showers, dumping stations for trailers and for a nominal fee of 25¢ to 50¢ additional per night, you can have electricity right at your campsite. You can also make reservations ahead of your visit to insure a good site when you arrive.

It must be understood that all private campgrounds cannot be classed as a campers' paradise. As will happen in any type of business, a few enterprising individuals have opened campgrounds merely to cash in on a "good

thing." These widely scattered few can be quickly spotted by a lack of facilities and an extra charge for nearly everything.

The legitimate owner, on the other hand, is a man to be respected. As a camper himself, he knows that trailers need large, easily accessible sites. Showerhouses are kept spotless and sanitary and grounds immaculately clean. He is ready to assist the novice camper in selecting a good campsite or in any way possible. This owner is eager to direct you to nearby fishing "hotspots." Repeat business depends on your enjoyment!

Private campgrounds vary from one area to another. They may range from 10 to 250 campsites, the average around 56. If located in or near a highly attractive region, the campground may cater to overnight, traveling campers. Facilities will be first-rate, but recreation at the campground is unnecessary. The camper in this case is mainly interested in touring the district and taking in points of interest.

Other campgrounds attract the vacationing camper. These may have huge complexes of organized recreation including life-guarded swimming, fishing, slide shows, lectures, horseback riding and hayrides, well-marked hiking trails and other forms of entertainment. Camp stores are often located right on the property.

Still another variety absorbs the overflow from state parks. Nearly all state parks which often employ the "No Vacancy" sign will have private camping areas very near the park. Many of these are within walking distance. The camper then has the use of public recreational facilities at the park and the added benefits of the private campground at the same time!

Of course, many, many campgrounds cater to the sportsman. Areas along the Susquehanna, Delaware, Allegheny and other rivers, plus those by sparkling, fast-running mountain streams offer the fisherman and boater hours upon hours of prime recreation.

It is not our wish to imply in any way that our many state parks do not have truly great places to camp. They are so attractive, in fact, that most of the more popular parks fill to capacity nearly every weekend. As a result, shoulder-to-shoulder camping exists and many people are unhappily turned away. It is our considered opinion that private campgrounds represent a logical and welcome solution to an increasingly difficult problem.

Various areas with good fishing potential will be mentioned through this column in future issues. If you would like a free directory listing many private campgrounds throughout the state write to us: Campground Association of Pennsylvania, Dept. A, Mercer, Pa. 16137.

Midges—**FOR TOUGH TROUT**

PART II

By ED KOCH

Part one of this series gave a brief explanation as to why I started fishing midges, how I arrived at the conclusion they would work and a description on how to tie the size 24 herl midge in four colors. Let's get on with part two, more development, tying and finally trying.

A great deal of my time during the middle and late forties was spent on Spring Creek, Bellefonte, both in and out of the Paradise project. At that time the fly hatches were excellent and the dyed in the wool dry fly man who enjoyed the "sport" of fooling, catching and releasing his trout was easily spotted among the hundreds of anglers vieing for their lunger. Evening was the time for the best hatch so we had 6 or 8 hours of all day fishing to pass the time in anticipation of the evening rise. We fished the general run of the mill patterns in dry, wet, streamer and a few nymphs. We were never much interested in seeing how big a fish we could catch but in how many we could catch and release. Today our log still hangs in the kitchen closet of our home back in the coal region. The date of the trip, weather conditions, what type fly used and in the last three columns how many trout released. When I refer to "we", I will probably mean my father, Ed, Sr. and my brother Norman whom we called "Mickey" and myself. All of us tied flies and of course were interested in proving that our own particular flies were best. Mine over my Dad's and my brother's and vice-versa. Some days were good, some not so good and at first we weren't too interested in finding out why. We were fishing, having fun and that was our main interest. One of our favorite flies was the old wet or hard back ant—tied with black thread, lacquered, with a soft hackle in front and fished wet. Size was generally 10, 12 or perhaps a small 14! Gradually we started tying the ant smaller and smaller and found we were more and more successful, until our fly boxes contained nothing but 18's, 20's, 22's and 24's. A few 12's were carried "just in case" but I can't ever remember going back to them. The small ant carried us through the day-time fishing enabling us to release as many as 30 to 40 trout before sunset. Almost always, we fished for trout that we could see. Trout laying in the moss pockets in quiet water, trout laying along the grass lined banks waiting for terrestrials to accidentally find their way on the water and trout lying in the riffles and glides where the fast water rushed over the wing walls and dams bringing to the trout an abundant supply of all types of insects. By working over visible fish we could generally see our fly, but more important we could see the trout's reaction as the fly drifted past. We could see our quarry rise, inspect, and reject or take, in the slow water. Dart right or left to gulp in the fly in the faster water where he had only a matter of seconds to decide whether it was good or bad,

real or artificial. Endless hours of this type of fishing finally began to put a polished edge on our prowess with the short rod, small flies and fine tippets. At that time I was using a 7½ ft. glass rod with 2 lb. tippet material. Casting had to be accurate in fast water in order to put the fly in the path of the trout's feeding station or at least near enough so that a slight turn to the right or left would permit the quarry to snatch the fast moving artificial. In the quiet water the cast has to be "right on the nose" so that the fly would float directly to the trout without drag. This meant that it could not hit too far in front or too near before the current straightened the curve of the leader and started dragging the fly. So, though we weren't catching the largest trout in the stream we were slowly but surely learning the finer points of casting, drift, drag, reaction time, but most important trout reactions. For a good many years, had anyone given me a choice of one fly to use all season long, I would have gone with the hard back, black ant.

During the evening hatch we generally fished the grizzly hackle yellow, or "dangle" as we called it. The fly was tied with a grizzly tail, yellow wool body and grizzly hackle. No wings at that time, a high school lad wasn't interested in turning out quality, but quantity. Wings were just too hard to tie and I lost too many flies to pain over tying on a perfect set of wings and having fly and tippet disappear in the first good trout that rose. Size 14 was average for the dry. All we knew was that if we got our fly to the rising trout, we had as good a chance as anyone else of the hungry browns or rainbows coming up and slurping in our imitation. The thrill of catching a trout on a dry fly made me quickly forget everything I had observed during the course of the day. All tact was forgotten at a time when it should have been most remembered. Thinking the trout became foolish and careless during a hatch, I did the same. Casts were not perfect, flies were allowed to drag and consequently the number of trout hooked during the evening was always less than during the day. It took several seasons for the light to finally dawn, that these trout were just as finicky, even more so, than those I was able to fool during the day with the tiny ants. When I began to settle down, cast well, keep alert and remember what I was doing all day long, the trout came easier and oftener. We finally worked our way down to a size 18 grizzly hackle yellow but never any smaller. The size 16 and 18 were excellent trout producers and we were content.

The "dangler" name for the same fly came for want of a better word to describe what we observed many old timers doing during the evening hatch. Four or five foot of leader was left hanging from the tip of the rod and the angler



FIG. 1

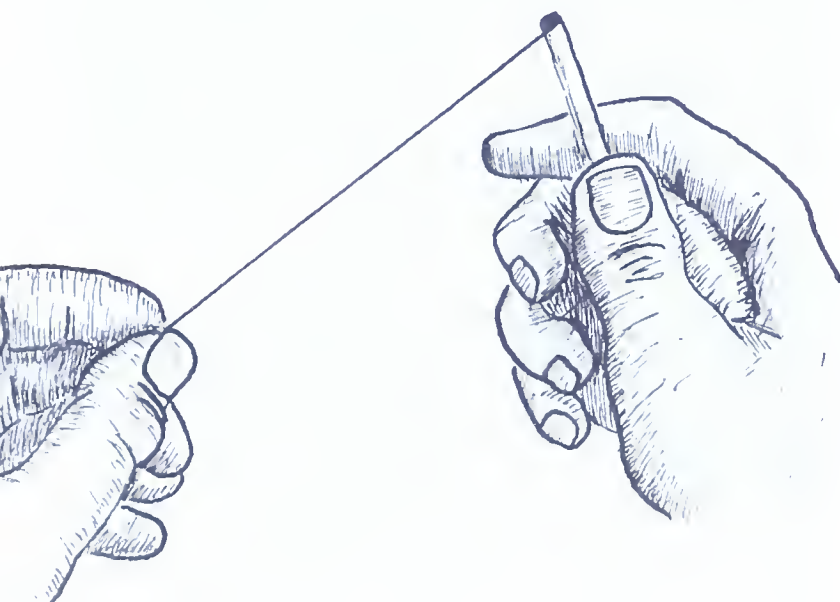


FIG. 2

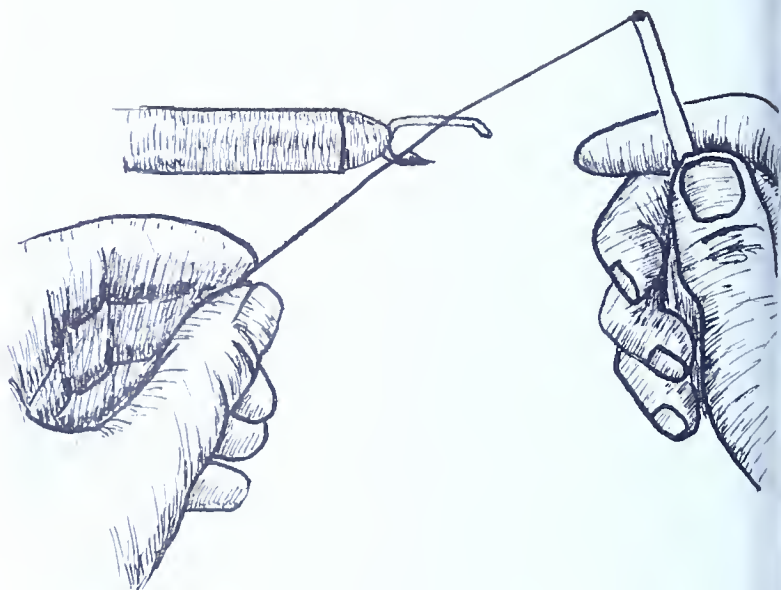


FIG. 3

would walk up and down the bank watching for trout lying near the grass. The fly would be dangled at rod's length out over the water and allowed to blow in the wind, touching the water occasionally. Often times the angler would raise and lower his rod tip "dapping" the fly on the surface as the English call it. Trout would jump four, five and six inches out of the water for the fly and hook themselves on the way down. Skeptical but interested, we tried it and found it worked, very well indeed. I still use it on occasion today on open water as often as the opportunity presents itself.

Let's get on with the tying of three midges now that will give the angler a well rounded selection of hackle flies for all season long.

They are the black hackle, brown hackle and grizzly hackle yellow.

Hook size—18—94840 or 94842

Thread—Ed Koch's nymph thread, black, brown and yellow

Hackle—Black, brown and grizzly.

Insert hook in vise, fig. 1. Pick up bobbin in right hand, hold end of thread between thumb and forefinger of left hand, fig. 2. Holding thread against shank of hook—left hand below—right hand above—fig. 3, make 4 or 5 wraps with thread toward the bend of the hook so thread that is being wrapped on shank is over the thread held in left hand, fig. 4. Clip off excess thread. Using three hackle fibres, tie on tail, fig. 5. Tail should be approximately as long as the shank of the hook, fig. 6. Wrap body of black nymph thread to within 1/32 inch of the eye of the hook, fig. 7. Tie in one size 18 black hackle, fig. 8, butt first. Wrap two or three turns of hackle and tie off, fig. 9. Whip finish head, lacquer and fly is complete.

Brown hackle—use brown thread, brown tail and brown hackle.

Grizzly hackle yellow—use yellow thread, grizzly tail and grizzly hackle.

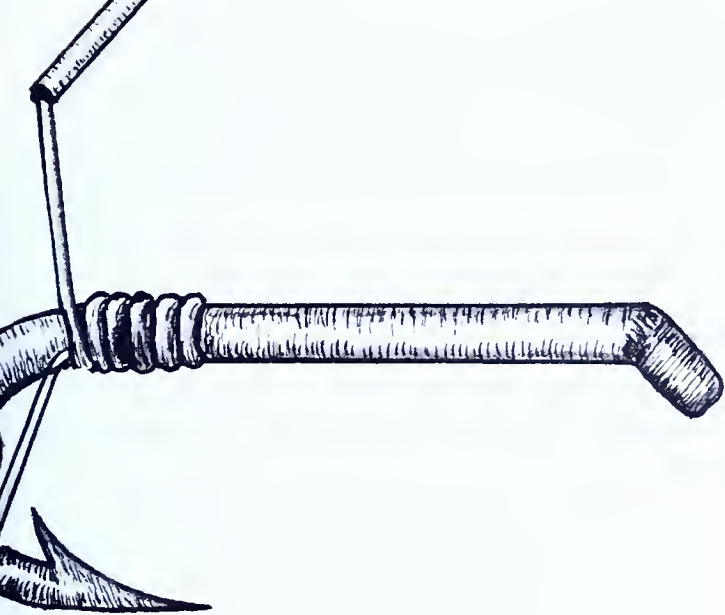


FIG. 4

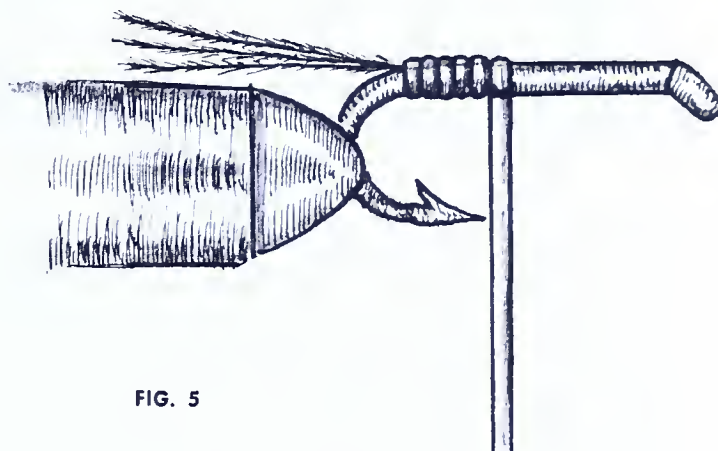


FIG. 5

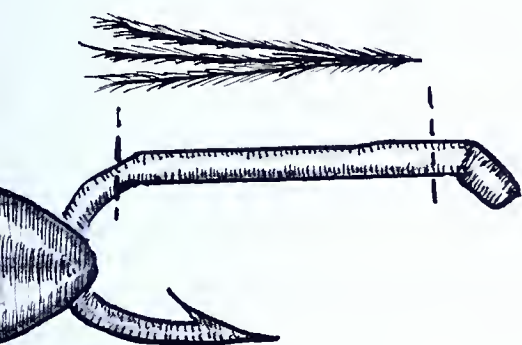


FIG. 6

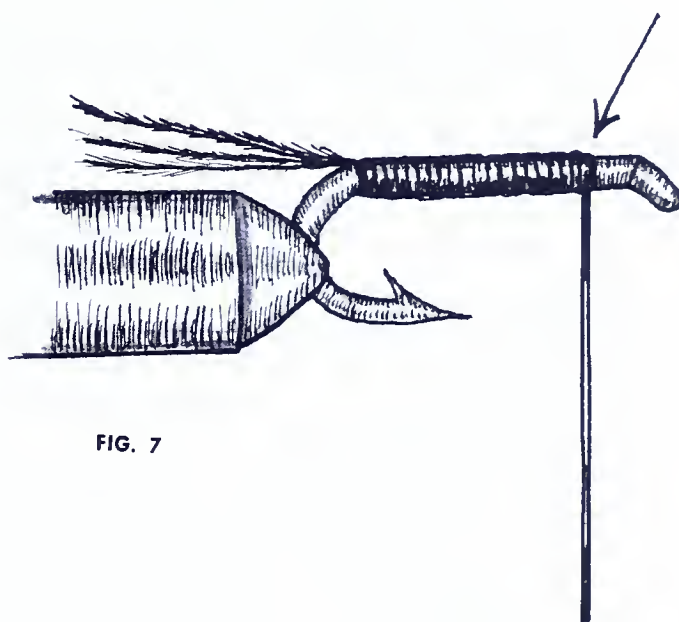


FIG. 7

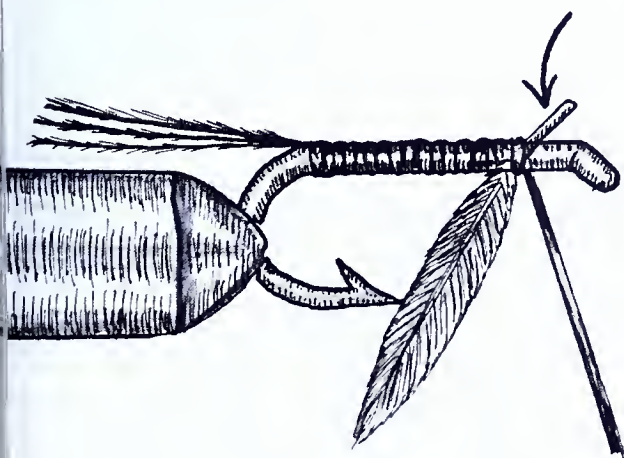


FIG. 8

FIG. 9

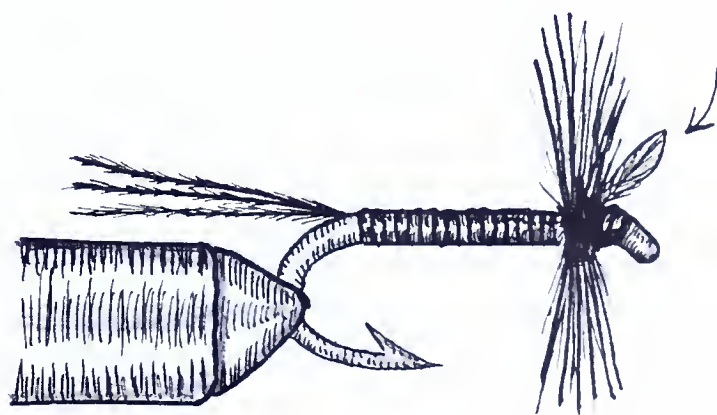


FIG. 9



Notes FROM THE STREAMS

■ During the past few years the Allegheny River from Pittsburgh to Tarentum has rehabilitated itself to the point where catches of game fish, notably large and smallmouth bass and walleye, are becoming commonplace. During August and September minnows by the millions infested the river and fishing was excellent in the area around Lock No. 3. Brian Galecki of Oakmont, and Tom Sechrist of Cheswick, on September 12, from 8 A. M. to noon, caught and released over 90 large and smallmouth bass just below Lock No. 3 at Acmetonia. The largest was 13½ inches. Bill Rose of Acmetonia, on September 20 caught two 18-inch largemouth in the same area and released many small ones.—District Warden **STANLEY PAULAKOVICH** (Allegheny).

■ Ten years ago Game Protector John Troutman and I were checking a fisherman's minnow bucket at Koon Lake, Bedford County, when we noticed that the fisherman had some tadpoles which had started to grow legs. The fisherman asked what these were called, and I answered, "Near-frog"—(tadpole closer to becoming a frog than remaining a tadpole). Much to my surprise, on September 24, 1965, while at Koon Lake, a man spoke to me and said he was the fisherman who had the nearfrogs, and said he had never been able to find any book that explained what a nearfrog is. So after ten years I explained what a nearfrog is. This is a local name and I am not certain when it started, perhaps ten years ago at Koon Lake.—District Warden **WILLIAM E. McILNAY** (Bedford and Fulton).

■ Game Protector Richard Ruths, of Galeton, answered a complaint from a farmer that beaver had taken over his farm pond and were doing considerable damage. Upon investigation, Dick found that a large beaver had taken over the pond. Dick proceeded to set the trusty Game Commission beaver trap with high hopes of catching beaver the first night. The next morning Dick was delighted to find the trap sprung. Upon retrieving the trap, much to Dick's surprise, instead of the beaver, Dick had caught a 14-inch brown trout. After several trips, Dick caught the beaver and moved the trap to a more desirable location.—District Warden **KENNETH ALEY** (Potter).

■ Evidence of the great fishing to be had in Pennsylvania was again witnessed at the State Fishing Tournament held in Tidioute in October. People attending the tournament for the first time were amazed at the nice catches of game fish taken from the Allegheny River. One lady was heard to say, "John, if there are fish like this right out in our front yard, why are we going to Canada every year."—District Warden **KENNETH G. COREY** (Warren).

■ How can you define a "sportsman"? What is an "avid" fisherman? Recently, 25 members of the West Penn Chapter of Trout Unlimited visited the Fish-For-Fun section of North Fork Creek, Jefferson County. Acting as host for Project Brookville, W. J. Burns, president of the Lions Club, greeted the fishermen. Mr. Burns said he approached a member of Trout Unlimited who was expertly casting his fly on the waters of the North Fork. In the course of the conversation, Mr. Burns learned that this man had undergone open heart surgery. The fisherman then told Mr. Burns that he was going to enter the hospital later in the week for additional open heart surgery. The gentleman then went about the task of fishing. Surely this man can be called an "avid sportsman".—District Warden **JAMES DONAHUE** (Jefferson).

■ In late October I came upon a fellow along the Susquehanna River near Danville, carrying a shotgun in one hand and a spinning rod in the other. When I asked whether he was hunting or fishing, he gave this explanation. "The bass and walleye are hitting and the ducks are flying, so I decided to go after both, and I'm glad I did." He had taken three nice walleye and a duck.—District Warden **ROBERT J. PERRY** (Columbia, Montour and Northumberland).

■ While working at the Open House at the Benner Spring Research Station, a gentleman handed me a sum of money and said he wanted to subscribe to the PENNSYLVANIA ANGLER. I apologized for not having my receipt book with me, but assured him I would forward his money and that his subscription would start with the next issue. His reply was, "Even if you forget to send it in, you can consider it a donation for the wonderful exhibit I've seen here today."—District Warden **JAMES T. VALENTINE** (Huntingdon-Fulton).

■ Forty years ago the Bedford County Game, Fish and Forestry Association stocked eight cans of tadpoles and 28 cans of brook trout in Friends Cove, Cove Creek and in the Schellsburg area, Shawnee Creek, which is now the location of Shawnee Lake. The fish and tadpoles were furnished by the Pennsylvania Fish Commission. Within my time the opening day of a frog season was like the first day of small game season. Hundreds of people hunted frogs in Bedford County. We still have quite a number of frog hunters, but nothing like it was twenty to thirty years ago.—District Warden **WILLIAM E. McILNAY** (Bedford-Fulton).

■ While on patrol with Deputy Game Protector German the first day of small game season, we discovered a small fire which was just getting started near a new house. J

knocked on the door and asked if they knew the fire was there. They didn't, and we proceeded to put it out. The lady couldn't understand how it could have started. I showed her the glass jars and tin cans which were thrown there and explained how a jar with water in it could act as a magnifying glass and easily start a fire. It would help both fishing and hunting if people would think of this before they dump their trash anywhere along a stream or in the woods.—**District Warden CLOYD W. HOLLEN** (Blair).

■ During the experimental fall stocking of Buffalo Creek, I noticed that while the men were fishing, women would be sitting in the cars reading or knitting. Then I saw one in reverse. For seven days in succession I checked a lady angler whose husband was sitting in the car. About the fourth day, my curiosity got the best of me, so I asked him why he wasn't fishing and he said that he didn't have the patience to fish.—**District Warden ANTHONY DISCAVAGE** (Armstrong).

■ The Potter County Anglers Club did a considerable amount of work on their nursery this past summer. They increased their water supply by running 200 ft. of eight-inch tile and taking water from the West Branch of Pine Creek. They are in the process of building a hatch house where they will hatch their own eggs. Keen Buss, the Fish Commission's chief aquatic biologist, will assist the club in setting up the jar method of hatching. The club is planning to stock 5,000 one and one-half to two-year-old trout in Lyman Lake, Potter County, for ice fishermen.—**District Warden KENNETH ALEY** (Potter).

■ Peter Galenas, of Scranton, hooked a largemouth bass while fishing in Mud Pond. The bass, which weighed about three pounds, leaped in and out of the water trying to shake the lure. Finally it jumped into the boat! Mr. Galenas said it was the first time in forty years of fishing that he landed a fish with a boat.—**District Warden WALTER G. LAZUSKY** (Lackawanna).

■ While attending the Fish Commission's live fish display at various fairs this year, I found it very amusing to watch the reactions of the ladies when they saw the hellbender and eel in the aquariums. Two young girls were watching them and the eel would open and shut its mouth and the hellbender would do a little movement at the same time. The one girl said it appeared that the eel was saying "jump" and the hellbender was doing it—just like a sergeant giving orders to a private. I think this would be a good spot for "Candid Camera" to visit.—**District Warden CLOYD W. HOLLEN** (Blair).

■ For the first time, the Fish Commission had a major display at the Juniata County Fair and the reception we received and the interest shown by visitors to the Fair was most gratifying. One interesting sidelight was the comment of our immediate neighbor, who displayed household furniture and appliances. He was very much impressed by our display and commented that our display brought more people than ever before to that area of the exhibition hall and his volume of sales had increased accordingly.—**District Warden RICHARD OWENS** (Mifflin and Juniata).

■ I was having lunch in a restaurant near Hills Creek Lake when a young boy, whom I had observed earlier fishing from the boat dock, came into the store and asked for a certain type of bobber. The type he wanted was not in stock so he took the smallest round bobber they had available. He ran back to the dock and started fishing again. About 15 minutes later he returned and said the bobber was no good and he wanted his money back. Seems he had just caught a perch about 5 inches long and the bobber didn't go under, so he figured it was not a good bobber. The clerk gave him his money back.—**District Warden RAYMOND HOOVER** (Tioga).

■ People are really beginning to be litterbug conscientious. One day recently I pulled into one of the Fish Commission's access areas and observed a fisherman eating his lunch. After he completed his lunch he neatly bagged the sandwich wrappers and deposited them in the trash can nearby. He returned to his station wagon, took his ash tray, and deposited its contents in the can. I walked over to where he was getting his boat ready and asked what luck he was having. His first words were, "I know who you are". This surprised me, as I had made only one previous trip to the area since transferring to Somerset in June.—**Regional Supervisor JOHN BUCK**, (Region 2).

■ At a recent sportsmen's meeting the subject of frogs and frog hunting came up. After a time, the conversation turned to what had been found in the stomachs of frogs. Included in the list was about anything that would fit, such as snakes, tadpoles, other frogs, mice, shrews and turtles. Some of the men wondered what species of wildlife took the greatest amount of frogs for food. The Game Protector pointed out that he had inspected the stomach of an illegally killed Great Blue Heron and found fifty plus frogs and tadpoles. Apparently this had been his day for frogs.—**District Warden THOMAS L. CLARK** (Crawford).

■ From all the requests I've had by local sportsmen regarding ice fishing (seasons, creel limits, equipment needed, etc.), it appears that this sport is growing to be one of the most popular winter pastimes in our state.—**District Warden JAMES T. VALENTINE** (Huntingdon-Fulton).

■ This poem was passed on to me by Mr. John Zaganola of the Columbia County Soil Conservation Service. I don't know its origin, but the writer surely shared the sentiments of a great many fishermen.

When the bills begin pilin' high
The kids need shoes, and the cow's goin' dry,
And the clouds are darkenin' up the sky,
Well, that's when I go fishin'.

When there's no refund on income tax,
And I split my toe with the darned old ax,
And my wife says, "Will, you must face the facts."
Well, that's when I go fishin'.

It doesn't matter if you're poor or rich,
If you govern a state or dig a ditch.
The fish don't care whose bait they snitch,
And that's why I go fishin'.

—**District Warden ROBERT J. PERRY** (Columbia, Moutour, Northumberland).



GOVERNOR SCRANTON is presented the State "Conservationist of the Year" award for outstanding overall conservation effort and achievement by Joseph D. Hughes, of the National Wildlife Federation Endowment, Inc.

GOVERNOR SCRANTON HONORED AS "CONSERVATIONIST OF THE YEAR"

Ten outstanding Pennsylvania Conservationists were honored in Harrisburg on December 7 at the First Governor's Conservation Awards Banquet sponsored by the Pennsylvania Federation of Sportsmen's Clubs in cooperation with the National Wildlife Federation and the Sears-Roebuck Foundation.

With some 500 leading sportsmen, conservationists and outdoor writers in attendance, including a delegation of 11 members of our Association, the ceremony was high-lighted by the presentation to Governor William W. Scranton of the State "Conservationist of the Year" award for outstanding overall conservation effort and achievement.

Awards presented were:

Wildlife Conservationist of the Year—Robert E. Fasnacht
Conservation Educator of the Year—Charles W. Stoddard
Soil Conservationist of the Year—Ivan McKeever
Water Conservationist of the Year—William E. Guckert
Forest Conservationist of the Year—Dr. Maurice K. Goddard

Youth Conservationist of the Year—Penna. Youth Forestry Camp No. 1

Legislative Conservationist of the Year—John F. Laudadio

Conservation Communications Award of the Year—The Pittsburgh Press and Fred Jones

Conservation Organization of the Year—Penna. Federation of Women's Clubs.

Identical programs are being sponsored in each of the 50 states. All ten Pennsylvania winners will compete for the national awards next in Washington, D. C. President

Johnson has tentatively agreed to attend the National Awards Banquet and to personally make the presentations.

FORMER FISH COMMISSION PRESIDENT DIES

Paul F. Bittenbender, of Kingston, former president of the Pennsylvania Fish Commission, passed away in Wilkes-Barre General Hospital on December 20, 1965.

Mr. Bittenbender was appointed to the State Board of Fish Commissioners in August, 1947, and was elected president of the Commission in July, 1953, after having served as vice president.

An enthusiastic fisherman from an early age, he was adept at the art of fly tying.

He was a native of Philadelphia and an alumnus of Wyoming Seminary and Wesleyan University.

Mr. Bittenbender was associated with a Wilkes-Barre brokerage firm for the past 30 years, and was a member of various organizations in the area.

He is survived by his wife, the former Dorothy Renard, and a sister, of Kingston.

FISH AND GAME LAWS ARE VERY, VERY OLD

In the time of the Roman Empire, nearly 2000 years ago, fish and game regulations read as follows: (1) Fish and wild animals in a state of nature belong to no one person. (2) Fish and wild animals become the property of the person who first reduces them into possession . . . (3) The sea and public rivers are not capable of individual ownership. (4) No citizen can be prevented from fishing in the sea and such rivers by any person.



FEDERATION FISH COMMITTEE MEETS AT HARRISBURG

Members of the Fish Committee of the Pennsylvania Federation of Sportsmen's Clubs met with representatives of the Pennsylvania Fish Commission on January 4 in the office of Executive Director Robert J. Bielo to analyze various aspects of the Commission's program. Items discussed included the extended trout season and the type of areas which should be selected and the possible development of a program for 1966 to answer additional questions on this subject; the Commission's policy concerning high-pressure stocking areas and policies governing the establishment of such areas; Project 70 activities to date; fish salvage and the type of areas which should be included; and the Commission's policy on lease back arrangements with local governmental bodies on P. L. 566 projects which returns control of the lake and all areas around it to the local government with the exception of activities relating to fish management.

Left to right on the above photo are Basse Beck, Sunbury; Leon Reed, Honesdale; Les Secoy, Point Marion; Miss Oiler; Robert J. Bielo, Executive Director of the Commission; Marion Brooks, Weedville; Warren Singer, Assistant to the Executive Director; Gordon L. Trembley, Assistant Executive Director; Jim Biery, Allentown, and Edward Balderson, Morrisville, Chairman of the Fish Committee.

MORE STREAM IMPROVEMENTS SCHEDULED IN BUCKS COUNTY

Stream improvements projects are catching on in Bucks County. District Fish Warden Miles Witt reports that the Park Board of Milford Township, in conjunction with the Boy Scouts of the Quakertown area and the Milford Township Rod & Gun Club, have undertaken a large scale stream improvement project on Unami, or Swamp, Creek in Milford Township. They have purchased wire for wire baskets, and have already installed the first of many proposed devices in the Creek. The area will remain open to the public, and will add many new acres of fishable water to the Unami Creek. The project is receiving wholehearted community support.

WEST CHESTER INSTALLS GABIONS

The West Chester Fish and Game Association has installed five gabion stream improvement devices, which were furnished by the Brandywine Valley Association, in West Valley Creek. Clyde Smith and his committee placed these baskets across the stream, making a solid dam breast which not only backs up the water, but forms a natural waterfall to aerate the water and furnish excellent cover for trout.

The club recently had electricity installed at their trout pond and purchased a pump to aerate the water during hot, humid periods.

More than 160 youngsters turned out for the club's 15th annual fishing rodeo this past summer. The fish cooperated and the youngsters were kept busy pulling them out. Fishing outfits were awarded to those who caught the largest fish.

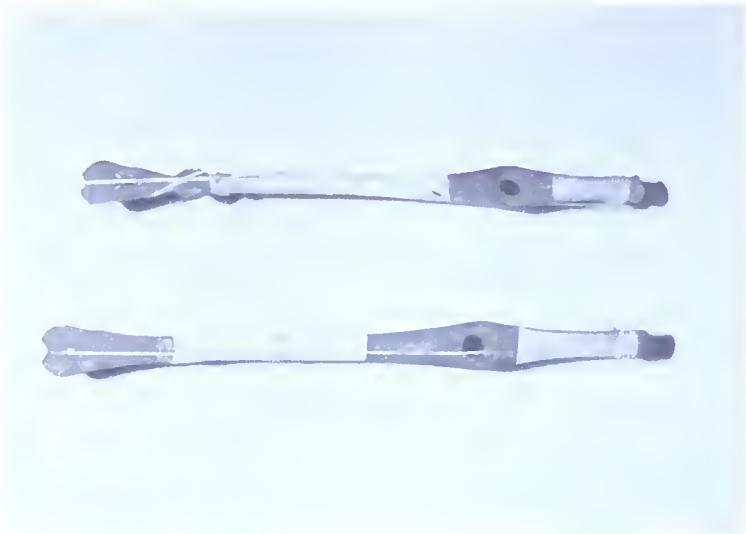
★ ★ ★

"We have destroyed more of our environment than any nation on earth. Since World War II, the U. S. has consumed more natural resources than were consumed in the entire previous history of mankind."—Dr. Francis J. Trembley, professor of ecology, Lehigh University.

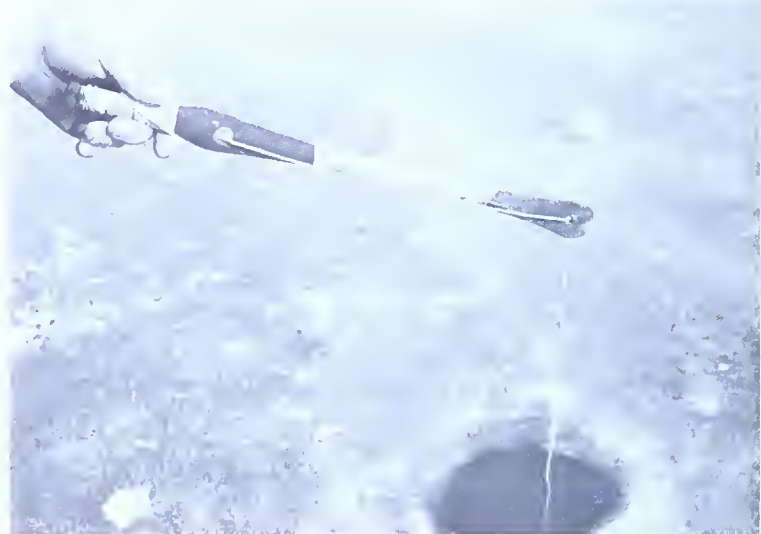


CENTURY OLD ICE FISHING RIG

Photos By JAMES YODER



100 YEAR-OLD combination tip-up and jig sticks with original lines attached.



JIG STICK RIG is shown here, the hole at the end serving as a guide to the line.



USED AS A TIP-UP, a small green twig is cut to fit the pivot hole long enough to prevent rig from being drawn down the hole by a striking fish.



WHEN FISH STRIKES BAIT, rig tips up alerting fisherman to bite. At same time allows line to uncoil butt end as fish runs with the bait.

WARDENS PRAISED

District Fish Warden William McInay, of Bedford County, and Student Fish Warden James R. Beatty, Jr., who was then assigned to Bedford County, were commended for their assistance in investigating a hit and run accident on December 1, 1965.

The accident involved an intoxicated operator who subsequently resisted arrest.

Sgt. William Kauffman, of Troop G, Pennsylvania State Police, said, "both Mr. McInay and Mr. Beatty conducted themselves in the best tradition as State Fish Wardens . . . being mindful of their responsibilities which is indicative of their cultivation of dedication to the service of the people of the community."

Mr. Richard Owens, District Fish Warden
Lewistown, Pennsylvania

Dear Mr. Owens:

The Board of Directors and myself would like to take this opportunity to thank you for the fine exhibit you supplied for our 1965 Juniata County Fair.

Our people and fair management appreciated your fine operation in helping to make the 1965 Juniata County Fair our greatest.

We shall strive to keep going ahead and are hopeful we can solicit your continued support. Again my thanks—

Sincerely,

JUNIATA COUNTY AGRICULTURAL SOCIETY

/s/ C. L. Goodman, President



BIG RAINBOW BOWS OUT

This female rainbow trout, loaded with eggs, was taken from a pool in the mouth of Walnut Creek by District Fish Worden Norman Ely and Special Fish Worden Reginold Exley (Erie County). Upon examining the trout to determine the cause of its death, they discovered the spinning lure which is hanging from the mouth of the trout in the photo in the throat of the fish. The lure appeared to have been cut from a monofilament line. Worden Ely surmised that the fish was landed (during the closed season) and the angler, instead of keeping the fish, cut his line to release the fish instead of killing the fish to recover his lure.

The fall run of rainbows had been in the mouth of the Creek for about three weeks and over 50 trout ranging from 15 inches to about 29 inches were counted in this same pool.

These trout were the only fish to fish for in the Creek and obviously some fisherman was fishing for the fun of catching them and releasing them.



MIGHTY BASS, an 8-pounder, caught by Stuart and Herbert Hirsch, Towley, Pa. at Lake Wollenpouck last season.

Save the heavy bags from self-service ice machines to make handy moisture-resistant garbage sacks while camping.

Hungars Church at Birdsnest, Virginia, which was built in 1751, is said to have had the first pipe organ in America. Its pipes were melted into sinkers for fishermen during the Revolutionary War.—Raymond C. Otto.

Mr. John Buck,
Southwest Regional Warden Supervisor
Pennsylvania Fish Commission
Somerset, Pennsylvania

Dear Mr. Buck:

The John Frazier District Camporee Committee would like to thank you for your cooperation in helping to make our Scout Camporee a success.

District Warden Stanley Paulakovich did an excellent job keeping 204 scouts and 54 scouters interested. His description of the various lures and how to fish them, his demonstrations with a spinning rod and fly rod and his talk on fish found in our local waters, was enjoyed by all.

Again, we would like to thank you and Warden Paulakovich very much.

Sincerely yours,

Joseph A. Hamilton
(for camporee committee)
Wilksburg, Pennsylvania

Dear Editor:

I am inquiring about a stone bridge situated about a mile above Susquehanna town in Susquehanna County. I think the Erie RR uses it and it was built by a Frenchman. Can you tell me more about it?

A. J. Stemler
Folcroft, Pa.

Memo from Fish Warden Richard Roberts to the Editor:

In reply to the letter from Mr. A. J. Stemler to your office, I have obtained the following information on Starrucca Viaduct at Lanesboro, Pa.

At Lanesboro, Susquehanna County, stands a monument to a Scotchman, James O. Kirkwood. After three contractors had attempted to build the stone viaduct, one of the finest of any railroad system, Mr. Kirkwood did it.

It is located on the main line of the Erie Railroad, an 18-arch structure, 1,200 feet in length and 110 feet high. Its eighteen arches have spans of fifty feet each and carry a double track with thirty feet clearance on top. The final cost of the viaduct was \$320,000, which gave it the distinction of being the most costly railroad bridge in the world in 1848, when it was built.

The contractor opened new quarries up the Starrucca Creek to get the stone. A track was constructed on each side of the stream, which brought the material to the work in cars. Every available man in the vicinity was employed, numbering 800 in May, 1848. Thirteen tiers of false work were extended across the Starrucca Valley, and operations were rushed day and night with such system that the viaduct was finished and ready before the specified time.

It was the greatest structure of masonry in the United States when it was finished, and even today it is standing as a conspicuous example of engineering science.

Mr. Harland F. Reynolds
District Fish Warden
Honesdale, Pennsylvania

Dear Harland:

Your splendid help and cooperation in making our Conservation Day a success were, as always, greatly appreciated, and I wish to take this opportunity of thanking you personally and on behalf of the Council.

We are getting a pretty good sampling of reactions from the boys, and there is no doubt that they enjoyed it and got a great deal out of all the work and talent that you and the other conservation specialists did.

Very best regards and thanks,

/s/ Arthur Watres
Forest Lakes Council, Inc. 501
Boy Scouts of America

After a rainstorm, use birch wood for your campfire. It doesn't soak up moisture like other woods do.

DIRECTORY OF BLUE BOOK AGENTS

Additional places for subscribing to the **PENNSYLVANIA ANGLER** and where the latest and newest Pennsylvania Fish Commission **FISHING REPORTS** and **INSTANT INFORMATION** are available.

- Berks County**—Kagen's Inc., Reading, Penna.
Bucks County—Andrew Maroney—Andy's Sport & Hobby Shop, Yardley, Penna.
Cambria County—Shoff Sporting Goods, Ebensburg, Penna.
Chester County—Daniel W. Bullock, Berwyn, Penna.
Franklin County—P. Paul Overcash, Chambersburg, Penna.
Jefferson County—Deman's Sporting Goods, Brookville, Penna.
Lackawanna County—Eynon Drug, Eynon, Penna.
Lackawanna County—Edward Rebar, Throop, Penna.
Lehigh County—Gerald T. Chapleski, Allentown, Penna.
Lehigh County—Paul Daubanspeck, Allentown, Penna.
Lehigh County—Pete Nestor, Nestor's Sporting Goods, Inc., Allentown, Penna.
Northampton County—Charles Schwartz, Bethlehem, Penna.
Schuylkill County—Joseph Kopena, Mary-D, Penna.
Susquehanna County—Halls Sporting Center, New Milford, Penna.
Warren County—F. J. Erich Sporting Goods Store, Irvine, Penna.
York County—Harry Haines, Lincoln Highway Garage, York, Penna.
York County—Squab's Outdoor Shop, York, Penna.

Tip-O'-The-Month

By C. BOYD PFEIFFER



CLOTHESPINS

Next time your wife has you hanging out the wash (ahem) think of how many ways you can use a spring type clothespin. If you have to replace a guide on a rod this winter, the spring clothespin will hold one foot of the guide in place while you start wrapping the other one. Bass bug builders (say that rapidly, seven times) can use spring clothespins as a small custom clamp to hold a bug while gluing the hook in the slotted body. Fly tyers can use spring clothespins as large hackle pliers for big flies. Clamped on a vise shaft, the clothespin can easily be flipped in the way of a bobbin to prevent unraveled thread when selecting the next material. With the ingenuity of fishermen, I am sure other uses will come to mind, but I just remembered I have to put the wash out.

To buy an air mattress that fits your needs, remember to measure the length and width while it is inflated. A deflated mattress appears much larger.



"THEY SAY they're demonstrating, but if you ask me, it's just another of their cotton-pickin' deluxe coffee breaks!"

FREE COLOR CHART

COMMON FISHES OF PENNSYLVANIA WITH ALL NEW

AND RENEWAL SUBSCRIPTIONS

TO *Pennsylvania Angler*

Enclosed is \$..... for my (New) (Renewal)
(Gift Subscription)

1 year (12 issues) \$2.00

3 years (36 issues) \$5.00

Please send to:

Name

Address

Town Zip Code

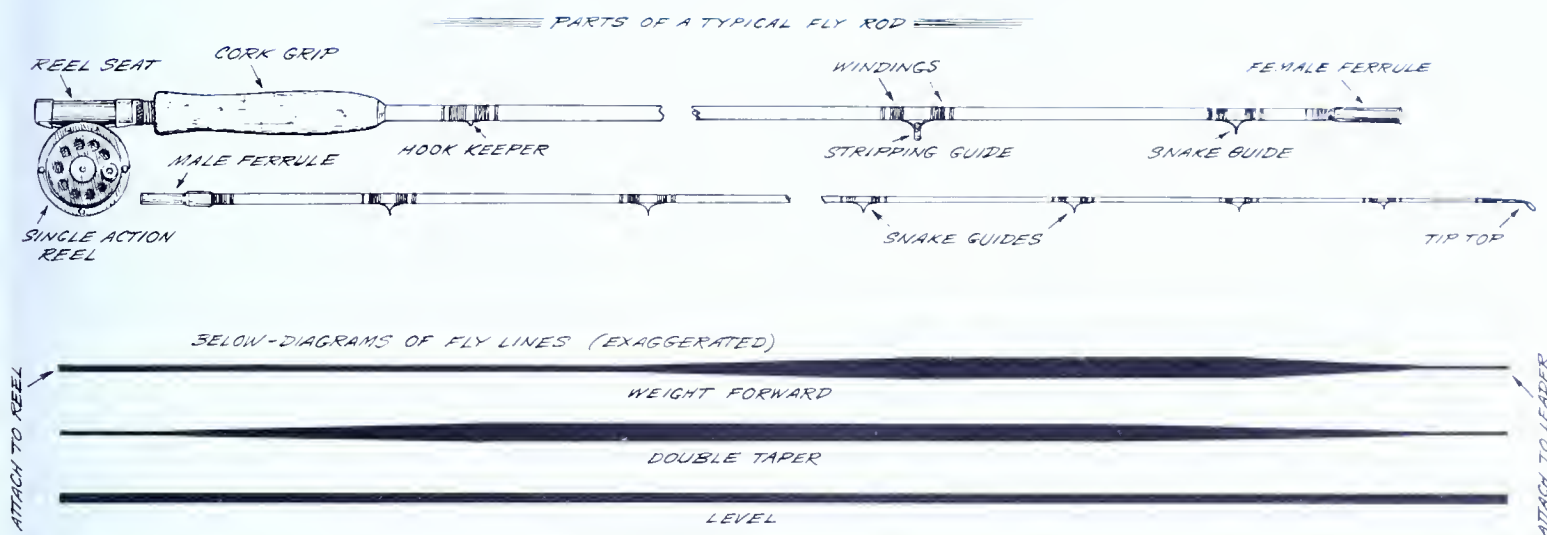
Make check or money order payable to the Pennsylvania
Fish Commission

Mail to—PENNSYLVANIA FISH COMMISSION
HARRISBURG, PA.

Cash sent at your own risk. STAMPS NOT ACCEPTABLE.



BEFORE YOU BUY



BUYING that first trout fishing outfit is an important event to most young anglers, but many throw away their money on the wrong equipment. Too late, they learn that unsuitable tackle can turn what should be an enjoyable sport into a frustrating experience. If possible, have an experienced angler (who is a good caster) help you make a selection. If not, here are some tips that should help:

Good fiber glass fly rods are available ready-made or in kit form. Kit rods are less expensive and are fun to build if you have the ability. Not everyone has. Choose the proper length for the waters you fish. 7½ foot rods are fine for small to medium streams; 8 or 8½ footers for medium to large streams and lakes. The 5'6" to 6 foot "flea rods" are handy on small, brushy streams, but are a bit tricky for the beginner to cast with.

Whatever the length, the action should be correct, and this is difficult to determine. Whip the rod back and forth carefully. A rod that bends near the grip and feels tip-heavy should be avoided for fly fishing. Most of the action should be in the tip one-third.

Two-piece rods usually have better action than three-piece ones. Examine the ferrules. They should fit tightly with no wobble. Good rods have lots of guides—the more guides the smoother the line will flow through them. Guides and tip-top should be free of rough spots, windings should be smooth, tight, and well varnished. Check the reel seat and be sure it is firmly cemented in place.

Reels for fly fishing need not be expensive. An ordinary single-action reel with an adjustable drag, or brake, will

do nicely. If you plan to use it on a large rod be sure it will hold all your heavy line. Reels that have extra, interchangeable spools will be appreciated later on when you acquire additional lines.

Automatic reels are convenient, but are heavier than single action reels and usually cost more than the average young angler wants to pay.

The fly line can be the most expensive part of your equipment, but it is almost impossible to do good fly fishing with a poor line. It should be of the permanently floating type, limp and kink-free, with a smooth, slippery finish.

Fly lines come in level, double-taper, and weight-forward construction. The level line is of uniform diameter throughout, and is the cheapest. The double-taper has a heavy middle tapering to smaller at each end. The weight-forward line has a heavy section near the forward end for long casts. The double-taper is probably the best bet for most fly fishing. It casts well, the fine ends will lay a fly on the water without a splash, and it can be reversed for double line life.

It is of utmost importance to match your rod with a line of the proper weight. Follow the rod manufacturer's recommendations, or refer to the following chart, keeping in mind that the actions of rods vary even among those of the same length:

ROD LENGTH	LINE SIZE
6'	4
7½'	5
8'	6
8½'	7

How To Catch Fish Through The Ice



1- NECESSARY EQUIPMENT FOR ICE FISHING INCLUDES ICE CHEST, TIP-UPS, MINNOW BUCKET AND BASKET FOR FISHING GEAR.



2- CUTTING THE HOLE WITH THE ICE BAR OR CHISEL. FIVE SETS ARE ALLOWED AND SHOULD BE SPACED SO THEY CAN BE QUICKLY ATTENDED.



3- LOOSE ICE SHOULD BE CLEARED FROM THE HOLE WITH WIRE BASKET, SCREEN OR PERFORATED DIPPER.



4- SOUNDING THE DEPTH OF THE WATER IS IMPORTANT. BAIT SHOULD BE SUSPENDED ABOUT ONE FOOT OFF THE BOTTOM.



5- PLACE A MINNOW ON THE HOOK AND REEL OUT THE PREDETERMINED AMOUNT OF LINE THEN LOWER IT CAREFULLY.



6- SETTING THE TIP-UP. FLAG IS BENT DOWN ON TRIGGER AND TIP-UP PLACED IN THE HOLE.



7- FLAG UP! SETS SHOWN ABOVE ARE SPACED CLOSELY AND CAN BE ATTENDED QUICKLY.



8- LET FISH MAKE HIS RUN, SET HOOK AND PULL IT IN.

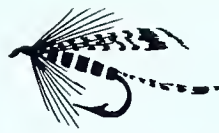
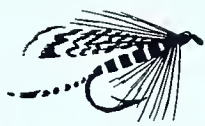


9- JIGGING REQUIRES CONSTANT UP AND DOWN MOTION OF THE BAIT. PERCH EYES, MEAL WORMS, ASSORTED JIG FLIES AND PLASTIC BAITS ARE ALL GOOD.

JOHN F. GARY

Pennsylvania ANGLER

MARCH



1966

SUN MON TUE WED THU FRI SAT

•

•

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

16



JOHN F. GARK-9

FISH COMMISSION CENTENNIAL WEEK

MARCH 27 – APRIL 2, 1966



GOVERNOR William W. Scranton signing Proclamation announcing Pennsylvania Fish Commission's Centennial Week, March 27 thru April 2, 1966. On Governor's right is Robert J. Bielo, executive director, Fish Commission; to his left is H. R. Stackhouse, former executive secretary of the Commission.

William W. Scranton, Governor of Pennsylvania, has proclaimed the week of March 27 to April 2, 1966, as Pennsylvania Fish Commission Centennial Week, in honor of the 100 years of service conserving the natural resources of Pennsylvania.

In the Proclamation Governor Scranton charged all sportsmen and citizens of the Commonwealth to project a full awareness of the value of fishing to the health, recreation, well-being and economic prosperity of their areas and the entire State, and to the Pennsylvania Fish Commission's efforts to protect this valuable resource for the present and future generations of our citizens.

PROCLAMATION

FISH COMMISSION CENTENNIAL WEEK

WHEREAS, Early settlers found the brooks and rivers of Pennsylvania abounding with many species of fish suitable for food and sport; and

WHEREAS, With the increased settlement of Pennsylvania came the lumber and coal industries, and silt from timbered mountain slopes began to fill our brooks, and acid and coal dirt from the mines started to flow into our rivers; and

WHEREAS, Through destructive methods of fishing, the building of dams in the rivers, and the ever increasing pollution of Pennsylvania waters, by the middle of the Nineteenth Century many rivers and brooks could no longer support fish for the table or for sport; and

WHEREAS, The people of Pennsylvania recognized the importance, both economically and aesthetically, of their fisheries resources and held a convention in Harrisburg early in 1866; and

WHEREAS, Resulting from this convention a law was drawn with great care, passed by the Legislature and signed by the Governor on March 30, 1866, appointing a Commissioner of Fisheries to investigate the extent of the trouble and report on the best methods of restoring damaged fishery interests of the Commonwealth; and

WHEREAS, After 100 years, the Fisheries Department, now known as the Pennsylvania Fish Commission, has, with the continuous support and valuable help of the newspapers and sportsmen of Pennsylvania, not only survived changing social and industrial conditions and major conflicts, but has grown into a strong organization having assets in the name of the Commonwealth valued in excess of \$50,000,000 and stands ready to continue the battle to maintain, perpetuate, and improve fishing opportunities throughout Pennsylvania;

NOW, THEREFORE, I, William W. Scranton, Governor of the Commonwealth of Pennsylvania, do hereby proclaim the week of March 27 to April 2, 1966, as PENNSYLVANIA FISH COMMISSION CENTENNIAL WEEK, and charge all sportsmen and citizens of the Commonwealth to project a full awareness of the value of fishing to the health, recreation, well-being and economic prosperity of their areas and the entire State, and to the Pennsylvania Fish Commission's efforts to protect this valuable resource for the present and future generations of our citizens.

GIVEN under my hand and the Great Seal of the State, at the City of Harrisburg, this tenth day of February, in the year of our Lord one thousand nine hundred and sixty-six, and of the Commonwealth the one hundred and ninetieth.

/s/ WILLIAM W. SCRANTON
GOVERNOR

BY THE GOVERNOR:

/s/ W. Stuart Helm
Secretary of the Commonwealth

**PENNSYLVANIA
FISH COMMISSION
DIRECTORY**

EXECUTIVE OFFICE

ROBERT J. BIELO
Executive Director

GORDON TREMBLEY
Assistant Executive Director

EDWARD R. THARP
Assistant Executive Director
Watercraft Safety

WARREN W. SINGER
Assistant to Executive Director

PAUL F. O'BRIEN
Administrative Officer

JOHN M. SMITH
Comptroller



DIVISION DIRECTORS

KEEN BUSS
Research and Fish Management
R. D. 1—Box 200-C
Bellefonte, Pa.—16823

HOWARD L. FOX
Propagation and Distribution
Bellefonte, Pa., R. D. 3—16823

GLEN SPENCER
Real Estate
Harrisburg

EDWARD MILLER
Engineering
Bellefonte, Pa., R. D. 3—16823

WILLIAM W. BRITTON
Law Enforcement
Harrisburg

ARTHUR BRADFORD
Pathology
Bellefonte, Pa., R. D. 1—Box 200-C
16823

GEORGE FORREST
Public Relations
Editor
Harrisburg



REGION ONE

CARLYLE SHELDON Warden Supervisor
Tionesta 16353 Phone: 814-755-8811

REGION TWO

JOHN I. BUCK Warden Supervisor
R. D. 2, Somerset, Pa. Phone: 814-445-4913

REGION THREE

CLAIR FLEEGER Warden Supervisor
51 Terrace St., Honesdale, Pa.,
Phone: 717-253-3724

REGION FOUR

CHAROLD CORBIN Warden Supervisor
R. D. 2, Annville, Pa.,
Phone: 717-273-2601, Ex. 86
G. M. R. 17003

Pennsylvania Angler

Published Monthly by the

**PENNSYLVANIA FISH COMMISSION
COMMONWEALTH OF PENNSYLVANIA**

William W. Scranton, Governor



PENNSYLVANIA FISH COMMISSION

ROBERT M. RANKIN, President Galeton
HOWARD R. HEINY, Vice President Williamsport

GERARD J. ADAMS Hawley
JOSEPH M. CRITCHFIELD Confluence
WALLACE C. DEAN Meadville
RAYMOND M. WILLIAMS East Bangor
JOHN W. GRENOBLE Carlisle
DOUGLAS McWILLIAMS Bear Gap
R. STANLEY SMITH Waynesburg

MARCH, 1966



VOL. 35, NO. 3

Contents

- 2 THE AMERICAN BEGINNING—Charles K. Fox
- 7 GOVERNOR SIGNS NATIONAL WILDLIFE WEEK PROCLAMATION
- 8 WHAT HOOK—AND WHY?—Joseph D. Bates, Jr.
- 10 SPRINGTIME IS NORTHERN TIME AT PRESQUE ISLE—Edwin L. Atts
- 12 THE EARTHWORM: A DRAB WONDER—Eugene R. Slatick
- 14-15 SECOND CLASS OF STUDENT OFFICERS GRADUATE FROM H. R. STACKHOUSE FISHERY CONSERVATION AND WATERCRAFT SAFETY SCHOOL
- 16 REARRANGED FLY/SPINNER GRABS TROUT—Don Shiner
- 18 MODERN CAMPING—Del and Lois Kerr
- 19 MIDGES FOR TOUGH TROUT, Part III—Ed Koch
- 20 BOATING WITH ROBERT G. MILLER
- 22 NOTES FROM THE STREAMS
- 24 FEDERATION TO OBSERVE COMMISSION CENTENNIAL
- 26 LIVECAR PLANS FOR STOCKING FISH
- 28 TIP-O'-THE-MONTH—C. Boyd Pfeiffer
- 29 SCHOOL'S OUT—Ned Smith

Cover Art by John F. Clark

POSTMASTER: All 3579 forms to be returned to Dunlap Printing Co., Inc., Cherry and Juniper Sts., Philadelphia, Pa. 19107.

The PENNSYLVANIA ANGLER is published monthly by the Pennsylvania Fish Commission, South Office Building, Harrisburg, Pa. Subscription: One year—\$2.00; three years—\$5.00; 25 cents per single copy. Send check or money order payable to Pennsylvania Fish Commission. **DO NOT SEND STAMPS.** Individuals sending cash do so at their own risk. Change of address should reach us promptly. Furnish both old and new addresses. *Second Class Postage paid at Harrisburg, Pa., and at additional mailing offices.*

Neither Publisher nor Editor will assume responsibility for unsolicited manuscripts or illustrations while in their possession or in transit. Permission to reprint will be given provided we receive marked copies and credit is given material or illustrations. Communications pertaining to manuscripts, material or illustrations should be addressed to the Pennsylvania Fish Commission, Harrisburg, Pa. **NOTICE: Subscriptions received and processed the 10th of each month will begin with the second month following.**

The American Beginning

By **CHARLES K. FOX**

(Book Rights Reserved)



A YESTERYEAR group of anglers enjoying an outing at Crystal Lake, Susquehanna County.

PRIOR to the time that paintings depicting fly fishing scenes were lithographed by Currier and Ives, prior to the time that Theodore Gordon cast the first dry fly on a trout stream on this side of the Atlantic Ocean, and prior to the time of the split bamboo fly rod, wet fly fishing flourished in accessible pockets of valleys in New York State, Pennsylvania, New Jersey, Maryland and the New England States. It was the time when every stream in our land was nestled in a gem-like setting of great beauty and it was before pollution marked the end of American innocence. There was no necessity for nature's reactions to man's action. Like the early Victorians on English streams the habitués on our streams cast their wet flies down and across where the expected comes so unexpectedly. There were no store trout or exotic species in those years in the East, only native brook trout, the most beautiful fish that swims.

To resident anglers open-air treatment was customary and it was the practice of city-dwelling anglers to escape to the country at every provocation. Headquarters and even trout towns became established where there existed

the combination of a stream, a railroad station, and an overnight accommodation. Some places were reached by horse and buggy. Sometimes transportation for the fisherman was the combination, iron horse and hay burner. Eastern streams were spawning more than trout; they were spawning great anglers too.

In their devotion to fly fishing these men pioneered tackle and methods for which the present-day angler owes them a debt of gratitude. But as one by one they laid aside their rods forever, there passed with them into eternal rest much of the acquired knowledge and the experienced glory. Thus a large part of the story of the early fly fishing in America became lost in the haze of time. However, scraps have been handed down. Here and there a choice item is on file in a library; there remains, too, a scattered few fishing logs; a limited number of books; and, of course, there are mementos in museums and collections. We know there were shooting stars in those early years in whose after-glow we now cast. This can be called the pre-split bamboo epoch or the pre-dry-fly period for the American fly fisherman.

Some anglers of today might look askance at the equipment of their forbearers, should they have to employ its like, but now the old-time solid-wood rods and horsehair lines command as antiques more than mere passing interest. So do old fishing prints of gentlemen anglers in high hats.

Even by present-day standards the fishing pressure in those precious times of our ancestors was not light in the accessible choice spots. In his valuable historical record, *Angling in America*, privately printed in 1939, in edition limited to 775 copies, Charles E. Goodspeed reported:

"Contemporary records of this sport indicate that a century ago all of the fishing territory convenient to the larger northern cities, Philadelphia, New York, and Boston, was thronged by anglers in numbers proportionately compared with those found along our streams today. In Pennsylvania, which, in the opinion of one who wrote in *Forest and Stream* in 1879, 'is perhaps the best natural trout region in America,' trout fishing was followed in all parts of the state."

It was in the year 1814 that Dr. Samuel L. Mitchell was given credit for giving our native trout its scientific name, *Salvelinus Fontinalis*, in his book, *Fishes of New York*.

Many have assumed that the cradle of fly fishing in America was the Beaverkill Valley in the Catskill Mountains of New York, the nerve center being the mouth of the Willowimock, around Roscoe. Later the Valley pro-

duced two of anglerdom's immortals—Hiram L. Leonard, the split bamboo rod builder, and Theodore Gordon, the sire of dry fly fishing in America.

There is documentary evidence that early fly fishermen were attracted by the short, deep, slow-flowing streams of Long Island, rendezvous for fishermen including Islip, Southampton, Fireplace, and Brookhaven.

The following is a newspaper quotation: "Mr. Robins of the Philadelphia theatre visited Long Island in the summer of 1814. During his stay in the place he caught 190 fresh-water trout." Apparently this resident of the city of Brotherly Love had a trout-catching background.

True or false, we cannot be sure, ardent angler, Daniel Webster, caught a 14½ pound trout in Carman's River, South Haven, Long Island, about the year 1834. The carcass was taken to Delmonico's famous eating emporium in the big city, where it was consumed by its captor and his cronies. So it was written, but also, so it was challenged in writing.

Some years later it was a "lazy, idle, little brook" of Long Island which provided material for a chapter in Rev. Henry van Dyke's *Fisherman's Luck*.

But flies were being cast on the waters of another State, too. On the Paradise Branch of the Brodheads at Henryville was built a frame hotel not far from a railroad station. For three generations the operator was a Henry. In recent years it was purchased by angler Al Zeigler, the present proprietor, who is married to a Henry. Over the years it has been a combination fly caster's Mecca, a retreat for escapees from the concrete jungle and a meeting place for vacationing pedagogs.

Across Route 447 and almost at the streamside was a restaurant called the Lighthouse at which were served for anglers many early breakfasts and many more late dinners. Fishermen funneled into it, not only to satisfy the inner man but to reinforce the contents of the fly book, later the fly box, and to associate with kindred spirits. Over the years the fishing guests made entries in a fishing log. There were times when the book was located at the Lighthouse, and there were times when it was across the way at the Henry House. Fortunately for posterity it was at the latter that day in the Spring of 1957 when the Lighthouse disintegrated and disappeared in the flood which ravaged Analomic and Stroudsburg. Now it is tenderly cared for by Al Zeigler.

Ernest G. Schwiebert, Jr., author of *Matching the Hatch*, while a member of the Princeton University faculty, became a Henry House patron. He was presented the opportunity to examine the famous log. In his masterful manner he researched and reported on early Broadhead fishing. The great true story and its early historical significance is a chapter in the book of the Theodore Gordon Fly Fishers Club of New York, the title of which is *The Gordon Garland*.

I, too, am proud of the traditions and rewards of my fishing country, an area of great limestone springs. If less beautiful than the mountains, the country-side of the Cumberland Valley in Pennsylvania is more picturesque.

Cumberland County in the early days of fly fishing in



CATCH of pickerel and perch at Lake Henry in Wayne County. Note the big cane pole used for fishing along the weed beds.



SPLIT BAMBOO rod shown at the William Penn Memorial Museum in Harrisburg was believed to be one of the first to be made in America by Samuel Phillippe, Easton, Pa. The year was approximately 1874.

America was different in scope from that of the present. This was the sixth county formed in Penn's Woods and it encompassed about one-quarter of the entire State, including what is now Pittsburgh in the western part and State College in the central sector. At that time Carlisle was the jump-off place, anything to the west of it harboring red-skinned savages.

As the early settlers carved out their precarious hold, it became the plan to have everyone within 50 miles of a Court House, which meant in turn another county seat and a new Court House. Ultimately the State total became 67 counties, Cumberland being divided and subdivided into dozens, hence the name, "Mother Cumberland." The county was large in the year 1829 when the following appeared in the September issue of the *American Turf Register and Sporting Magazine*:

Sir,

You ask me for a paper on trout and trout fishing in Pennsylvania. This you shall have with pleasure, but as I am no more than a practical man in such matters, you cannot expect much.

Although I commenced wetting flies in times long gone by, my experience extends only to Cumberland County; but trout were formerly found in all the limestone springs in the State. Owing, however, to the villainous practice of netting them, they are extinct in some streams and scarce in others.

In Cumberland there are three good trout streams. Big Spring, west of Carlisle, runs a distance of five miles and turns six flouring mills and affords fine sport almost the whole distance. A law of the state makes it penal to net in this stream and forbids the taking of trout between the months of July and April. It is the only spring branch in the state protected by law; the good effect of which is so apparent that it is hoped other streams will receive the like protection.

The LeTort, which flows past Carlisle, is another good stream. It runs about four miles through meadow grounds and turns three flouring mills. It formerly afforded excel-

lent sport, but owing to the infamous practice of netting and setting night lines, the fish have been much lessened in numbers and size.

Silver Spring, east and north of Carlisle, runs half a mile and turns two flouring mills. This stream breeds the best and largest trout of any in the state—they are from one to three pounds, and it requires nice tackle and an experienced hand to land them.

The rod used is fifteen or sixteen feet long, very delicate, and throws from twenty to thirty feet of line—and in all three streams the fisherman is most successful with the artificial fly. The color used in April is black or dark brown; in May, dun or red hackle; in June and July imitations of the millers or candle flies are found best.

The habits of this fish are soon told. In winter they seek the deep calm pool, and seldom or ever change their position or go abroad. In spring and summer, they delight in rapids. They feed on flies, worms, water snails, and prey on small fish. They spawn in September; and for that purpose select ripples and shoal water, with gravel and sandy bottom. When the spawn or young trout is brought, it approaches close to the shore or gets into very shallow water to protect it from the larger fish, for it is a fact that the large trout will kill and eat the small ones. As he gains strength and size he returns to deep water and, in time, becomes the monarch of his pool.

In conclusion I will give you my first evening at Silver Spring. It was long since with a party of five, all bait fishers except myself. The proprietor of the ground advised me to use bait. He had never been successful with the fly. I would not be advised. The evening was fine, a cloud obscured the sun, a gentle breeze rippled the water, and such was my success that in less than one hour I landed twenty trout from one to two pounds each. The proprietor cried "enough." I asked for the privilege of another cast. I made one, and hooked a large trout with my bobbing fly, and in playing him, another one of equal size ran out and was hooked by my tail fly, and both were landed in handsome style. The last throw was fatal to my sports in that pool—for I never afterwards was a welcome visitor, but many is the day I have met with nearly as good success in the other millpool.

The Editor of *The American Turf Register and Sporting Magazine* not only chose to publish the trout fishing notes from Cumberland County, Pennsylvania from the pen of —G., but apparently he requested that they be submitted. The following is a quotation by the same reporter in a later issue of the magazine:

June 28, 1830

Mr. Editor,

I have returned from my annual visit to Carlisle. In the rich and delightful neighbourhood of that place I indulged in my favorite amusement of trout fishing. Owing, however, to the heavy and frequent rains, the season was a bad one and the great numbers of insects which washed into the streams made the trout capricious in their feeding. At my first visit to Big Spring a dun wing

over a red hackle was the killing fly; but in a few days after, at the same place, not a trout would rise at it; and at Silver Spring a miller sucked in the upper pool, while in that below a peacock body and brown wing was the only fly to be relied on. In LeTort a small grey fly was at all times in season. The trout this year were fat, plump and of high flavor, but the number taken by a brother sportsman and myself bears no comparison with that of former years. In our various excursions we took between seven and eight dozen and from all sizes from eight to sixteen inches. I have been particular in noting the color of my flies and the frequent changes necessary for the benefit of young sportsmen, but they too often stick to the same fly and the same spot of ground when they ought to change both.

At Big Spring I met one of the best fly fishers of the age. "Laughing Joe" adds to his character of a scientific and practical fisherman, that of a modest, sober and hard working man. Joe makes his own lines and flies, holds a rod eighteen feet long and throws thirty-six or forty feet of line with one hand, and no amateur can avoid a bush, flank an eddy, or drop into a ripple, with more certainty or with more ease. And there is one trait in his character decidedly sportsman—he never sold a trout in his life, the product of his rod is made a grateful offering for favors received."

Unfortunate it is that the identity of "Laughing Joe" is lost in the mist of time, for today one of his scion, such as a Trimmer, an Ahl, a Stuart, a Shank, a Pittinger, or a Reed may cast his "honey wing over red hackle" beside the undercut water cress. Possibly Joe's final resting place is the stone-studded hillside in Newville which overlooks the stream of Big Spring.

At an earlier time there was a boundary dispute between the Penns and Lord Baltimore which placed Big Spring in two different States. In resolution of the matter what was Maryland's loss was Pennsylvania's gain.

Stories have been handed down about the visiting anglers, how they put up at private homes, how in the morning they were taken upstream by horse and buggy to the great head spring to fish their way back, and how private enterprise kept up the road and set up a toll gate.

In his superb job of research, Goodspeed discovered that the sector enjoyed a trout-fishing reputation (*Angling in America*, page 234):

"But it was the fine fish in the limestone springs of Cumberland County which especially attracted the early Pennsylvania trout fishermen. Big Spring, Silver Spring, and Letard (the LeTort)—streams all in close vicinity to Carlisle—offered the anglers of 1830 ten miles of fine trout water."

The LeTort, misspelled in the above, flows from south to north into Carlisle, where it is polluted. It was named after a trader and trapper by the name of Jac LeTort. Today there are large commercial water cress beds at the spring sources where Jac once breathed, bartered and bred.

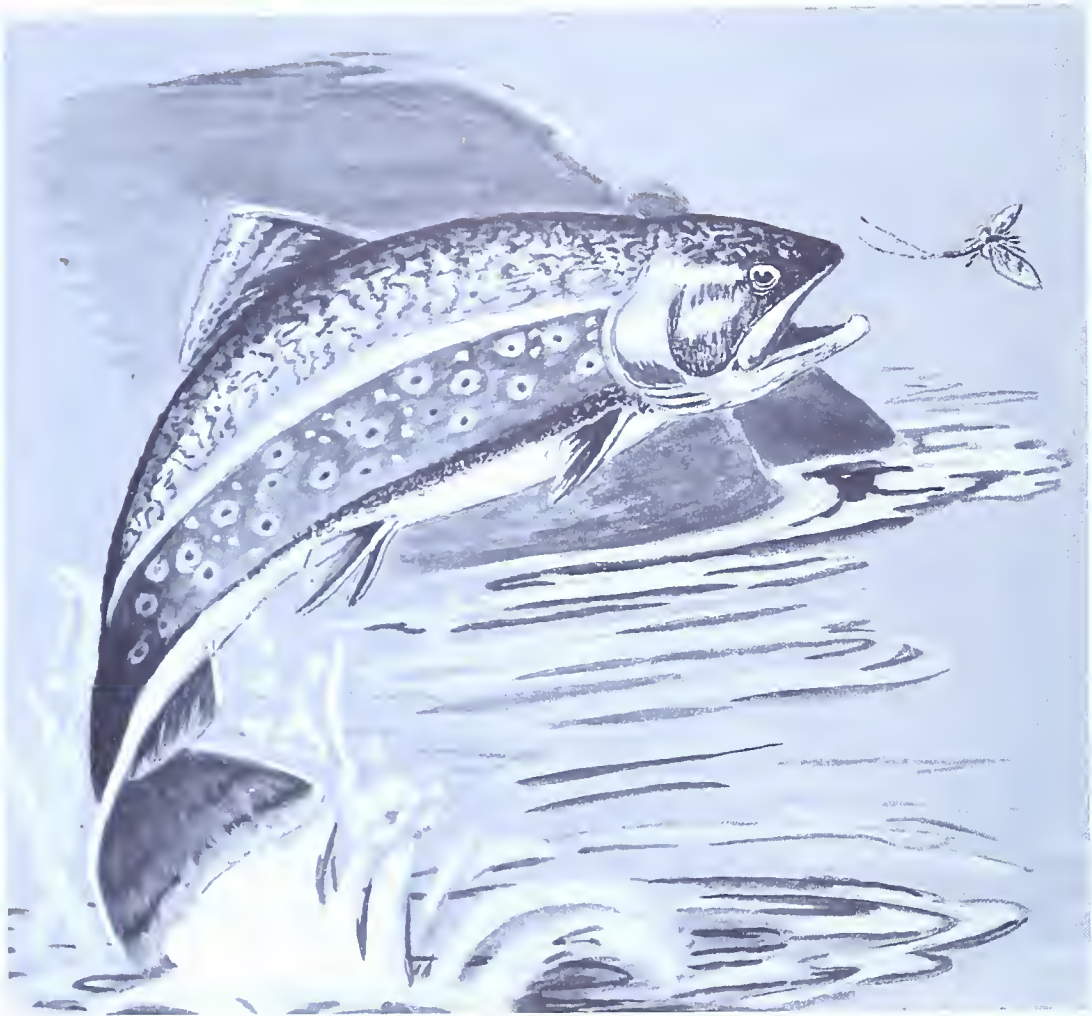
Joe Jefferson, who won acclaim as an actor for his portrayal of Rip Van Winkle, cherished Silver Spring, midway between Harrisburg and Carlisle. He loved to play the old Opera House in the Capital City during the trout season so that spare time could be spent on this stream. Although unsuccessful, he tried to get his frequent fishing companion, President Grover Cleveland, to fish with him there.

Scratch a fly fisherman and there will be found underneath a conservationist. Possibly the legal action described in the following is a first. It was written by a Washington, D.C. angler and published in 1839 in the *American Turf Register and Sporting Magazine*.

For the sake of everything dear to the lovers of angling, do all you can to put a stop to the taking of trout out of season. In Pennsylvania some streams are protected by law: Big Spring near Carlisle is one of them; fishing is

OLD SUMMERTIME scene at Echo Lake, Monroe County.





confined to the months of May, June, July, and August, and netting trout forbid at all times. Ask your legislature to follow the lead given by Pennsylvania: but should that body doubt the propriety of passing a law of the kind, ask them to appoint a committee to visit Big Spring on May Day. The committee will there see farmers, mechanics, doctors, and persons of every calling all engaged in trout fishing; and should it prove a day of clouds and sunshine, with just enough breeze to make a ripple, your committee will be gratified with the sight of at least three hundred brace of fine, fat, rosy trout.

The three-quarter point of the 19th century marked the end of the beginning of fly fishing in America. There followed two events which ushered in a new era: one was a vastly improved casting instrument made of split-glued-and-wrapped bamboo and the other was the introduction of dry-fly fishing.

The indication is that two gunsmiths, who were also violin makers, living in two different states, independently conceived and built a complete rod of split bamboo, the greatest American contribution to angling. Easton, Pennsylvania, claims the honor for native son, Samuel Phillippe, whereas Liberty, New York, believes that her son, Hiram L. Leonard, deserves the credit. The year was approximately 1874 and it is possible that at that time there was only one dry-fly fisherman in America, Theodore Gordon, even though this phase of angling had already captivated

the angling fancy of those who fished the chalk streams (limestone waters) of Southern Britain.

Even though Nature resists interference, under people pressure many things were destined to change. Those early fishermen would have appreciated the angling achievements which followed their time, but they would have been shocked by the physical changes—pollution, siltation and litter—of streams. We, in turn, are witnessing stream changes of still a different nature. In the name of progress, of course, the developers are straightening, broadening, shallowing, silting, blasting, and walling. A dam is built, sometimes not because a dam is needed but because it is a good place to build one. In the fullness of time they must redesign. But it cannot happen every place on every stream, and Nature will continue to resist and rectify.

Some things won't change. It will be as Lord Grey discovered it to be before the turn of the century "For to the angler as he looks back, his angling days seem to belong to a world different from and fairer than the world in which he has worked" To this we might add: we are still faced with the same problems astream, we still meet with the same disasters, and we still rejoice in the same triumphs. It was the same then as it is now: creeds and theories, rules and hypotheses; these the trout upset and destroy. This transpires even after the end of the beginning.

1966 National Wildlife Week Theme— “Protect Natural Beauty”



GOVERNOR WILLIAM W. SCRANTON signs proclamation declaring March 20-26 NATIONAL WILDLIFE WEEK in Pennsylvania. Seated to the left is Seth L. Myers, delegate to the National Wildlife Federation, and to the right, Henry Warner, first vice president of the Pennsylvania Federation of Sportsmen's Clubs. Standing, left to right are: Robert Lichtenberger, deputy executive director, Pennsylvania Game Commission; Harvey Adams, president of the Pennsylvania Division, I. W. L. A.; Oscar Becker, past president; Robert J. Bielo, executive director, Pennsylvania Fish Commission; Glenn L. Bowers, executive director, Pennsylvania Game Commission.

NEW EMPHASIS is being placed on the preservation of natural beauty, a movement every conscientious citizen should applaud and support. This trend toward greater appreciation of our outdoors was the focus of prime attention during the White House Conference on Natural Beauty last Spring. Measures to beautify highways were the subject of hot debate, prior to passage of a bill, in the Congress last fall. Now, the preservation of natural beauty is the theme of this year's observance of National Wildlife Week (March 20-26), sponsored by the National Wildlife Federation and its affiliates throughout the country.

This observance provokes additional thoughts about our natural resources.

To begin with, conservation preserves natural beauty. When distasteful sights and smells are removed from streams or lakes through water pollution control, natural beauty is preserved. When we plant trees or shrubs or grasses to heal scars in the soil resulting from mining or highway construction or overgrazing or fires, natural beauty is preserved. When we save endangered species

of wildlife, or establish seashores and parks and wildernesses, or set aside wild rivers, natural beauty is preserved. Conservation, then, besides its multitude of other values and benefits, gives us this added bonus of making our environment a better and most meaningful place in which to live.

Of course we can—and should—go beyond conservation practices to take positive steps for preserving and enhancing natural beauty. We can pick better places than streams and lakes and road-fills to dump our debris and junk. We can remove signs along highways. We can plant trees and shrubs and flowers, many of which also are of value to wildlife, in suitable locations. We can direct urban and rural planning so as to preserve the most pleasing natural views.

The list of “can-do’s” for both conservation and for the preservation of natural beauty is almost endless—if we have the desire and determination to have beautiful things around us. This attitude toward preservation of beauty is worth adopting, worth working for; our lives will be richer if we do!

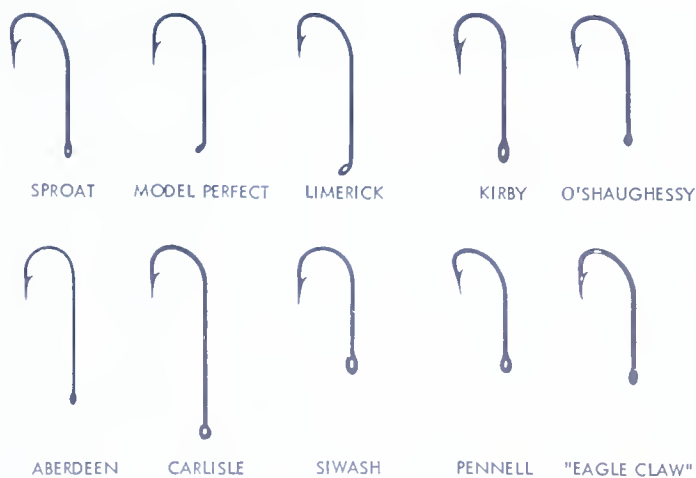
What Hook - - And Why?

By JOSEPH D. BATES, JR.

A Scandinavian hook maker produces over 60,000 different types of fish hooks. How many types there are world-wide is anybody's guess. The leading American manufacturer makes and sells over a million fish hooks a day—in almost countless shapes, sizes, lengths, strengths, finishes, points and other variations, even including plating some of them with 14K. gold.

Yet fishermen who get scientifically serious in deciding expensive purchases of rods, reels, lines and lures usually pay little attention to their hooks, perhaps never even bothering to straighten, test or sharpen them. This is a pity, because the hook is the vital part of the tackle. Fishermen pay for this inattention or neglect by getting strikes instead of hooked fish, and by trying to explain why "the big one" got away.

The famous "big one" and his smaller brothers wouldn't get away half as often if fishermen knew as much about hooks as they do about the rest of their tackle. Without getting bogged down in detail, let's look quickly at ten of the well known patterns to see which ones we should select for various types of fishing.



SPROAT: This is a parabolic bend hook with a straight point. It is one of the best and strongest early designs for fresh water fishing and often is used for dressing wet flies. When made with light wire it is an excellent dry fly hook.

MODEL PERFECT: Ideal for dressing both wet and dry flies. It is a perfectly round bend all-purpose hook with a wide gap, and usually is made on light wire.

LIMERICK: This hook has a half-round parabolic bend with a straight point designed for superior strength. It is excellent for dressing nymphs and wet flies when a heavier

hook is needed. Its design in long-shanked sizes makes it very popular for dressing streamer flies and bucktails.

KIRBY: This round bend hook is similar to the "Sproat" except that the point is offset or "Kirbed" for better penetration. This directs penetration at an angle with the shank to help prevent fish from shaking loose. The "Kirby" was used mainly for bait fishing before the superior "Eagle Claw" was designed for the same purpose.

O'SHAUGHESSEY: This resembles the "Sproat" and "Limerick" except that its point is bent slightly outward. It usually is made of heavy wire for extra strength. Fishermen prefer it for dressing heavy wet flies and for bait fishing for heavy-mouthed slow-biting fish. It also is excellent for trot line fishing.

ABERDEEN: This hook has a slightly squared round bend with extra width between point and shank so that, when baited with a minnow, its point will extend out of the fish rather than being imbedded in the bait. Its light wire avoids excessive puncturing, thus keeping the bait-fish alive longer. It also is a good light-wire nymph hook. It is made to bend before breaking, and thus is easily retrieved from snags.

CARLISLE: This round bend hook has an extra long shank and a straight offset point. It is especially designed for minnow and night crawler fishing because its length helps to prevent the fish from swallowing the hook.

SIWASH: This is a short, extra-strong round bend hook with a very long point. It was designed for commercial salt water bait fishing to penetrate the hard mouths of big fish to prevent them from throwing the hook. It often is made of corrosion-resistant metal.

PENNELL: Nearly unused today, this historic design was an early attempt to provide the ideal hook by bending the return part of the shank and barb toward the eye to provide a direct line of pull. The "Pennell" hook provided poor hooking power because the shank was bent inward rather than merely the point of the barb. The hook is worthy of note because it influenced the design of the greatly superior "Eagle Claw."

EAGLE CLAW: Often termed the greatest modern improvement for hooking and holding fish, this American design correctly provides a direct line of pull by the point being curved inward in line with the eye. Because this hook also has several other improvements which will be discussed, it undoubtedly is the world's most popular design for bait fishing (for which purpose over a million "Eagle Claw" hooks are made and sold every day). This type of hook also is used for dressing flies and for attachment to other types of lures.



American hooks are used less frequently for small wet and dry flies and for salmon flies than are hooks made by the famous old manufacturers in England and in the Scandinavian countries. This is not a matter of quality but is because our manufacturers currently do not produce as complete a range of designs and sizes in turned up and turned down eyed hooks considered ideal for the purpose by discriminating fly dressers. What we now lack in this field is overwhelmingly made up for by our amazingly efficient methods for producing fine hooks for bait fishing and for lures used both in fresh and in salt water. Since hooks for bait fishing comprise 95% of hook uses, our "also-ran" position in the small fly hook field is far from serious.

It is very important to remember that cheap hooks are not a bargain. To the contrary, they are one of the main reasons why fishermen don't hook and hold fish. The best insurance is to buy hooks packaged under well known names such as "Eagle Claw" or "Wright & McGill"—or, in the case of certain types of small fly hooks, under the names of famous foreign manufacturers. When buying lures, the names of reputable makers usually are a guarantee of high hook quality. But when in doubt be sure to test the hooks before going fishing. They may be brittle and will snap, or they may be soft and will straighten. Have extra hooks of known quality on hand for replacement.

Since 19 out of every 20 hooks are used for bait fishing, let's discuss their selection. Since Wright & McGill Company, of Denver, Colorado, is the largest maker of bait hooks in America, let's discuss the scientific construction of their famous "Eagle Claw" brand to see why fishermen who know their fishing buy over a quarter billion of them every year. We've seen that the inwardly curved claw-like point puts the line of pull of the hook in direct line with the direction of pull of the leader. This pulls the hook's point and barb into the fish much more efficiently than if the line of pull were parallel to the shank, as it is on most older designs. We only have to fasten a piece of monofilament to an "Eagle Claw" hook and another to one whose barb is not in line with the direction of pull and to pull each hook into a bar of soap or some similar soft substance to see why the "Eagle Claw" design hooks and holds better than ordinary hooks made as our grandfathers used to know them.

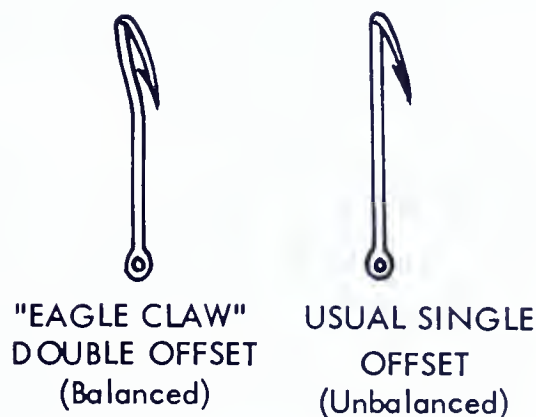
But there are other reasons which also help to put this brand far ahead of imitations. The points of these hooks all are mechanically hollow ground for quicker penetra-

tion. Hollow grinding is an extra precision operation which is akin to honing a knife to razor-like sharpness. The barb is cut at a scientifically predetermined angle and in a special way that bites less deeply into the wire, thus resulting in fewer broken barbs. And there's more which is equally important.

Many types of bait hooks have offset barbs and points. When these are offset to the left with relation to the shank they are said to be "Kirbed," as in the "Kirby" hook described previously. When the offset is to the right, they are said to have a "reverse bend." Why the bend, in either direction?

Let's tie a piece of monofilament to a straight (non-offset) hook, and let's do the same with a Kirbed or reverse bend hook. Let's lay both of them between the pages of a book and let's pull on the monofilament. The straight hook probably will slide out, perhaps without even scratching the pages. But the offset hook will be sure to pull in. It will hook and hold between the pages of the book as it will between the jaws of a fish. The penetration is at an angle to the shank of the hook, which tends to prevent its release.

However, the single offset hook (offset either to the right or to the left) creates an oblique angle of pull which is not in line with the pull of the leader. The hook is not balanced, which is a reason why this type is so rarely used in fly fishing. Because of this, "Eagle Claw" hooks are double offset; that is, offset both to the right and to the left, as the sketch shows. They are balanced and, as far as we know, no other hooks have this improvement. This



double offset causes the hook to turn and to dig in as single offset hooks do, but it also causes the hook to turn and to dig in in the direct line of pull. So in this "Eagle Claw" double offset design we have a point which digs in in the line of pull plus a double offset which provides added penetration also in the line of pull. Both of these innovations provide hooks that securely hook and hold to keep both "the big one" and his smaller brothers from getting away.

Finally, in hook manufacturing, the matter of heat treating and tempering is extremely important. When the hook wire is cut, bent, eyed and barbed, the wire must be relatively soft. After this it must be heat treated in furnaces and must then be tempered to be neither so hard that it will break nor so soft that it will bend excessively. Experts used to depend on judgment or guesswork to do this, and many manufacturers still depend on it because they lack modern precision equipment. This usually results in lack of uniformity. Some batches of hooks come out with ideal strength, while others are too brittle or too soft.

To maintain absolute uniformity, Wright & McGill Company invested heavily in the finest heat treating and tempering equipment obtainable—made to their specifications. Guesswork thus is eliminated, with the result that all batches of hooks which come out of the heat treating ovens and the tempering baths are exactly uniform. Samples are taken from every lot and are tested by technicians. Nothing is left to chance.

All this gives us several yardsticks to go by in hook selection. We know in a general way what design of hook to select for the type of fishing we plan to do, and we know we can get this design in favorite sizes, lengths, strengths and finishes, not only in single hooks but usually also in doubles, trebles and in weedless designs. We know why we should select well known brands, be they of American or of foreign manufacture. We know what types of hooks hook and hold most securely, and what types don't do so nearly as well. We know why modern technological equipment plays such an important part in producing high quality hooks.

So, if "the big one" ever gets away again we can be sure there's one vital part of our tackle which is not to blame. That's the hook—and it's a very important point in fishing!



Toward the middle of March the sun's rays are striking Pennsylvania for a longer length of time each day. The sun's warming effect causes trees to sprout forth with new life, signals birds to begin their northern migration, and makes anglers anxious for that magic moment in the middle of April.

Prior to the opening of trout season there is little fishing in the Commonwealth with the exception of some early season suckers. Unfortunately, not all anglers care for this form of fishing, though others feel that filling a stringer with husky suckers is among the most fabulous fishing found in the state. As for myself, I would rather head north to Presque Isle Peninsula and take my chances at hooking a fighting northern.

The northerns come from the cold deep water of the lake to the warm shallow water of the lagoons to spawn. The fish begin their annual migration soon after the ice breaks up and stay for several months. Fishing is good anytime after the fish arrive and lasts until the water becomes so choked with weeds that it is impossible to retrieve a lure without it fouling in the dense vegetation. Weedless lures prolong the fishing for a short time, but they too are soon impossible to use.

While each angler may have his own favorite hotspot, northerns appear to be found in nearly all the bays and lagoons at one time or another during the spring months. Many northern fishermen will try one area for a half hour or so, and then move to another location if no fish are raised. If they catch a fish or know they are present, they will continue to throw hardware in an attempt to lure them from their lair.

A boat is an advantage but it is not an absolute necessity. In fact, I have found them to be a detriment if we planned to skip from one place to another until a hot spot is located. Public launching sites are maintained by the Pennsylvania Fish Commission and there are many other places where light car top boats can be placed in the water.

Minnows are available at all the bait stands in the area and they work quite well for fooling the cannibalistic fish. Spoons and spinners are among my favorite baits since one can cover more area than if he were using minnows. A minnow has to be left in one place or slowly drifted with the current, but an artificial lure is retrieved at a rapid rate, thus presenting itself to more fish.

Little needs to be said about tackle for northerns since any spinning outfit will serve the purpose. Make sure you use a leader heavy enough to prevent the fish's sharp teeth from cutting through it. The roof of a northern's mouth is covered with needle sharp teeth that will cut through monofilament as quick as you can blink your eyes. To prevent this disheartening episode from occurring always use an eight or ten inch wire leader.

Is Northern Time at Presque Isle

By EDWIN L. ATTS



KEEP YOUR FINGERS out of a northern's mouth for the sharp teeth can inflict some mighty nasty cuts.

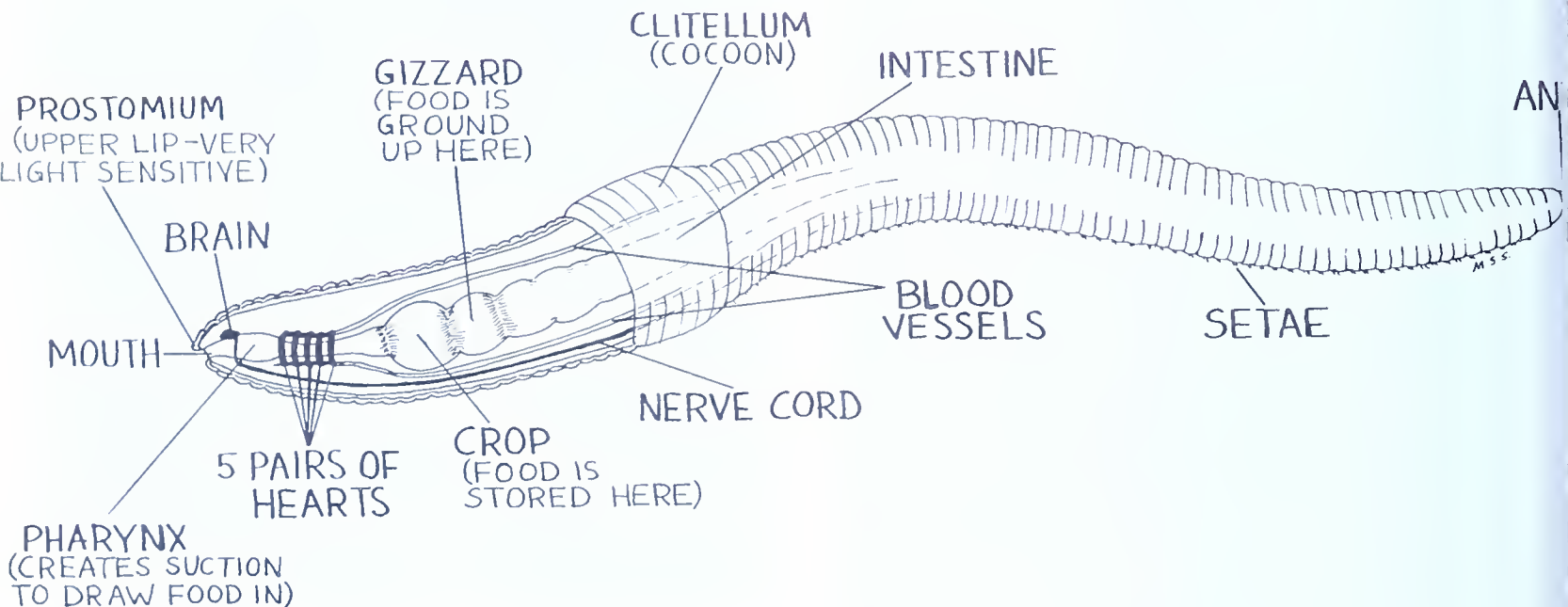
WARM CLOTHING, like this northern fisherman is wearing, is good protection against the strong winds coming in from the lake. Even on sunny days the wind can be very raw.



LARGE CROWDS throng to the hot spots in search of northerns. Other fish caught at this time are crappies, bluegills, bass, and perch.

The Earthworm: A Drab Wonder

By EUGENE R. SLATICK



SOME CHIEF FEATURES OF THE EARTHWORM

IT'S NIGHT, and a beam of light moves across a lawn, then stops, and a quick hand reaches down and picks up an earthworm. Another one for the bait can.

Thanks to the earthworm—that slippery, squirmy, unattractive animal—almost anyone can fish. All else that is needed is a hook, a line, and a pole. Earthworms have been used as bait for hundreds of years. They are mentioned in a book about fishing written in the late 15th century.

There are about 3,000 different kinds of earthworms throughout the world. They range in size from less than an inch to over six feet. In the United States there are about 12 species. Of these, three are most common to anglers: the nightcrawler, about seven or eight inches long; the gardenworm, or fishworm, about five inches long; and the manure worm, or stinkworm, a thin worm about four or five inches long with an offensive odor.

Despite their popularity as bait and the great numbers eaten by birds and other animals, earthworms still exist in large numbers. An acre may contain more than a million. They are welcome and useful animals. Their burrows, which may be six to eight feet deep, promote soil drainage, root penetration, and soil aeration. The worms themselves break down organic matter in the soil, making the nutrients more readily available to plants. Worms may add up to $\frac{1}{2}$ inch of enriched topsoil during a year. And they do all this simply by eating.

An earthworm's food consists of plant and animal matter. Worms can distinguish between various foods by taste, and they do show preferences. For example, one study showed that fresh beech leaves are preferred over fresh maple and oak leaves. But when the leaves are decayed, willow and oak leaves are the favorites.

The earthworm eats by sucking in food like a vacuum

cleaner. It uses its upper lip to maneuver the food into the mouth. Since the food is mixed in soil, large amounts of soil and sand grains are naturally eaten along with the food. A worm may consume its own weight in soil in 24 hours. But even the indigestible material is useful. The sand grains act as abrasives in the worm's gizzard, where the food is ground into small bits. The other indigestible material absorbs calcium carbonate secreted by glands in the worm and also the nitrogen formed during the digestion of food. When the waste material, called casts, is finally excreted it is rich in plant food.

Although worms frequently lie near the surface during the day, they are most active at night because they are sensitive to bright light. They have no eyes but can detect light with sensory cells on the body. The most light-sensitive area is the front tip of the body. Shine a bright light on an earthworm and it will crawl into its burrow. A very dim light won't bother it very much; neither will a red light. A blue light, however, has as much effect as a bright light. Ultraviolet light is lethal to earthworms. A worm trapped above ground during a sunny day will be killed by the sun's ultraviolet rays.

Earthworms can't hear, but they are sensitive to vibrations. Tapping on the ground, or on a stick driven into the ground, sometimes drives worms to the surface.

For an animal with no legs, an earthworm can move very well. It moves in a rather unusual way, though—with a "squeeze-pull" action. Two sets of muscles are used: those circling the body and those running lengthwise. (These sets of muscles, incidentally, make up the bulk of the worm's outer body.) First, the circular muscles contract, squeezing part of the body forward. As those muscles loosen, the longitudinal muscles pull the rest of the body forward. Then the whole process is repeated. Small bristles on the underside of the body help grip the surface.

Those bristles, because they dig into the sides of the burrow, make it difficult to pull a worm out of the ground. Sometimes the worm is torn apart. If this happens there is a chance that both parts will grow back the missing sections. One earthworm reportedly regenerated a head 21 times and a tail about 40 times. But not every worm will grow missing parts, for the worm must be in good health and a main nerve must be present.

Worms are slimy, not to be repulsive, but because they have to be in order to breathe. The worm breathes through its skin, and the mucus absorbs the necessary gases from the air. This method of breathing enables them to survive for long periods in well-aerated water; they absorb oxygen from the water—like a fish. If a worm can breathe in water why does it often come to the surface when the ground is saturated, like after a heavy rain? The answer is that the water in the soil is quickly depleted of oxygen; the worm can't breathe.

An unusual thing about the earthworm is that it is both a male and a female, for it has male and female organs. But even though it has all the necessary ingredients, the worm must still mate because it can't fertilize its own eggs. During mating the worms exchange sperm, which later fertilize the eggs.

After fertilization the eggs are deposited in a cocoon that encircles the worm. Eventually the cocoon slips off and, in two or three weeks, the young worms emerge. (In the nightcrawler only one worm emerges; the other eggs are used for nourishment.) Their life span will probably be only a few years, although worms have been reported to have lived six to ten years in laboratories. The worms will be able to breed in about a year.

Although the earthworm lives mainly by instinctive reactions and its brain is no more than a cluster of nerves, it does have some capacity to learn. It can learn, after repeated efforts, to choose a particular branch of a Y-shaped tube.

This inkling of intelligence may bring up the question of whether the earthworm feels pain. Most scientists think that it doesn't. They think that the worm's nervous system can't register "pain" even though the worm may wriggle when on a hook or torn apart.

One noteworthy feature about the earthworm is that it has five pairs of hearts. Another is that it can lose up to 70% of its body water and still live (an earthworm is about 85% water). This is an important feature for survival during dry periods.

The earthworms of today are thought to have appeared on earth about 60 million years ago, approximately the same time as the present day freshwater fishes. The man who discovered the earthworm to be a natural bait for fish will probably remain unknown forever. But he has a long line of followers.



OWEN PENFIELD FOX

GRADUATION FOR WARDENS HELD AT HARRISBURG

SECOND CLASS OF STUDENT OFFICERS GRADUATE FROM THE

H. R. STACKHOUSE FISHERY CONSERVATION AND WATERCRAFT SAFETY SCHOOL

HARRISBURG—Graduation exercises for the second class of student officers from the H. R. Stackhouse Fishery Conservation and Watercraft Safety School of the Pennsylvania Fish Commission were held on January 28, at 11:00 A. M., in the House Caucus Room of the Main Capitol Building.

Robert J. Bielo, executive director of the Commission, presided. The invocation was given by the Reverend Father Thomas Brenner, chaplain at the Harrisburg State Hospital. The main speaker was the Honorable Maurice K. Goddard, secretary of the Department of Forests and Waters. Dean E. Klinger represented the class. The oaths of office were given by the Honorable Carl B. Shelley, Judge of the Dauphin County Court. Diplomas were presented to the graduating class by the Honorable Howard R. Heiny, Vice-President of the Commission. Edward R. Tharp, assistant executive director of the Commission in charge of Watercraft Safety, presented U. S. Coast Guard Certificates of Training. The benediction was given by Rev. John A. Frehn of the Camp Hill Methodist Church.

Paul Antolosky, who served as superintendent of the school, presented the class. Remarks were also given by W. W. Britton, chief law enforcement officer of the Commission.

Members of the graduating class were—James H. Lauer, Lincsville, Crawford County; Charles A. Herbster, Lewistown, Mifflin County; Samuel W. Hall, East Petersburg, Lancaster County; Raymond D. Stockley, Cherry Tree, Indiana County; Michael Badner, Jr., Lake Ariel, Wayne County; James R. Beatty, Jr., Beaver Springs, Snyder County; Homer P. Duvall, Jr., Pittsburgh, Allegheny County; Paul R. Sowers, Punxsutawney, Jefferson County; Arthur A. Herman, Uniontown, Fayette County, who will be assigned to fill existing fish warden vacancies throughout the Commonwealth, and three watercraft safety specialists, William L. Sterling, Sweet Valley, Luzerne County; Alvin H. Wright, Jr., Erie, Erie County; and Dean E. Klinger, Summerdale, Cumberland County, who had previously been assigned to duty in specific regions of the state.



ROBERT J. BIELO, executive director of the Commission, presided. Howard R. Heiny, vice-president of the Commission is seated to the left of Mr. Bielo, and the Honorable Maurice K. Goddard, is on his right. Seated in the front row, from left to right, are W. W. Brittan, chief enforcement officer, Edward R. Tharp, assistant executive director in charge of watercraft safety, Gordon L. Trembley, assistant executive director, and H. R. Stackhouse, former administrative secretary, for whom the school is named.



LT. CMDR. Bruce Dannely, who represented the district commander, awards U. S. Coast Guard Certificate of Training to Alvin H. Wright, Jr.



MAIN SPEAKER
Goddard
Forests



W. W. BRITTON
Guard
graduation

Photos by

RALPH CADY

Penna. Game Commission



MAINTAINS the Honorable Maurice K. Pennsylvania Department of



DAUPHIN COUNTY Judge Carl B. Shelley presents Michael Badner, Jr. with his fish warden badge and commission.



MICHAEL BADNER, JR., receives his diploma from the vice-president of the Commission, Howard R. Heiny.



W. W. Division 5, U. S. Coast Guard graduate to a member of the



MEMBERS OF the graduating class are, seated, left to right, Arthur A. Herman, Paul R. Sawers, Hamer P. Duvall, Jr., Michael Badner, Jr., Raymand D. Stackley, Dean E. Klinger; standing, Alvin H. Wright, Jr., William L. Sterling, Charles A. Herbster, James H. Lauer, Samuel W. Hall, James R. Beatty, Jr., and Paul Antalasky, superintendent of the School.



THE CLASS was represented by its president, Dean E. Klinger.

A RAINBOW TROUT of arm-long proportions lived beside an undercut rock in Little Pine. My steel hook pierced its bone hard jaw but a frayed spot parted in the light spin line. I suspected that the trout would remain in the pool. The inflow of water traveled over a long stretch of rapids providing water with a high oxygen content. Several springs oozed up among fairy rings of ferns and velvet moss on the bank beneath towering hemlocks to keep the pool comfortably cool and shaded. Red fins, dace and chub minnows abounded in the riffles. The conditions were right.

Then a week passed. Try as I may, the trout now refused to budge for a streamer fly or a bulky wooly worm offering. The questions that confronted me this morning were whether or not the hefty trout continued to reside in the pool, and whether or not it would show interest again in a little fly/spinner lure.

It was early May. Foliage beside the stream, located in the Appalachian ridge and valley area of Pennsylvania, unfolded rapidly as though eager to begin photosynthesizing in the warm spring sunshine. I waded carefully into the pool and pitched the little fly/spinner lure into waist deep water. Working the rod tip intermittently, I retrieved the lure in a tantalizing, minnow-like manner through the riffles that whispered past the table size rock. Suddenly the line stopped cold! I felt a solid weight. A big silver and purple colored form cartwheeled to the surface. Leaving a lather of foam in its wake, it raced downstream in a powerful run. My heart pounded!

Keeping firm contact with this fish proved no easy task. I kept steady pressure on the rod. Soon the fish turned and raced back, then stopped abruptly to sulk on the

bottom. I gave several karati-like jabs to the rod. Quickly the trout moved out, racing down the full length of the pool. Finally, after many minutes of battle, I managed to slide the big trout out on a sandy shoal. It lay quietly, tail pulsating, as I worked to free the little "fly-before-spinner" from its hooked jaw.

My lure was no ordinary spinner and fly combo. I had rigged this time honored bait in reverse order, that is, put the fly in the front position, with the traditional spinner now trailing in the rear.

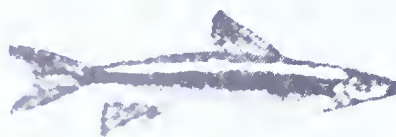
This reversal of the two component parts gave the lure a new look. It suggested a minnow-chasing-a-bug. There is more logic in this arrangement. Small wonder that hooked nose rainbows and browns, including scrappy smallmouth river bass, clobber the lure when it swims into view. In a sense, the rearranged sequence represented one of the few major changes that the popular spinner and fly had undergone in half a century.

Hildebrandt is credited with introducing the first spinner, fashioned from a worn dime and a discarded hairpin. From this crude beginning, the revolving blade became one of the world's truly great gamefish lures. The common supposition is that the spinner, drawn through the water, radiates light rays in such a fashion that the glitter simulates the metallic sheen of a minnow. Vibrations, emitting from the revolving blade, also match to some degree, the flight of a minnow in a pool.

Over the half century, the spinner proved fatal to every species of game fishes, outproducing practically all other lures and baits combined. Then someone, obscure in history, dressed the hook, which trailed behind the revolving blade, with feathers. By a stretch of the imagination,

Rearranged Fly/Spinner Grabs Trout

By **DON SHINER**



one can visualize the blending of feathers and metal blade into a single unit. But the spinner remained the focal point in the arrangement.

This spinner and fly combo remained my standby lure, as it had for many other fishermen. But an incident happened which forced me to take a double look at this lure. I concluded that the spinner and fly were assembled backward. I reversed the two parts, putting the fly up front of the blade. Now I grew convinced that it appeared to be a minnow chasing a terrestrial or aquatic bug.

Events surrounding my reversing the two parts of this lure involved a chance meeting with a nest of wasps and a husky smallmouth bass. A jack-o-lantern nest, hanging from a birch limb which leaned over the water, escaped my attention until my small spinner lure sailed a mite high and neatly sliced the bottom from the nest. Wasps instantly poured from the rupture. Several of the wasps fell into the stream.

The disturbance of these fluttering wasps, struggling to get airborne, attracted nearby chubs. The chubs, in turn, brought a whopping big bass from hiding. The monstrous bass cut into the school of chubs. I followed by casting my spinner into the pool hoping it would interest the bass.

Three or four casts drew blanks. I decided, on impulse, to reverse the spinner and fly parts. Threading the monofilament line through the eye of a McGinty pattern, and at the same time threading the line through the upper loop in the spinner shaft, I put the fly in front of the revolving blade. A single hook fitted in the rear, completed the rig. Now the lure took on the appearance of a chub-chasing-a-bee, the latter being closely imitated by the colorful McGinty pattern.

Surprisingly, the big bass struck on the first cast out. Successive pools yielded other bass that morning. I became satisfied that the "reversed fly/spinner" lure idea had merit. Later that evening, I made several permanently rearranged baits by tying the fly directly on the wire shaft in front of the spinner blade. I used the McGinty, Black Gnat, Grizzly King, Colonel Fuller, Royal Coachman and Grasshopper patterns.

Anxious to try out the new concept, I visited the stream during the following week. I socked steel into four or five big smallmouths, and a few good trout thrown in for measure, both of which inhabit this particular stream. The single hook trailing in the rear of the blade, missed numerous strikes. A quick switch to a double hook changed this. Charging bass and trout were hooked immediately. All the ties produced fish, but the old reliable McGinty or Bee pattern, Black Gnat and Colonel Fuller climbed a bit to the forefront.

In the months that followed, I creeded numerous good trout and bass too which steadily refused other baits, including bucktails and big wooly worms. They struck the fly/spinner, I'm certain, because they mistook the lure for a minnow-chasing-a-bug, all of which appeared to be an easy meal. I tied the fly/spinner lure in a variety of sizes, and experimented with it for a variety of fish including yellow perch, though these fish with ravenous



REARRANGING THE FLY and spinner parts, gives a new look to the old reliable bait so outstanding for trout and bass.

appetites will bite most any lure. Yet, when several big chain pickerel also grabbed the larger size fly-before-spinner lures, I knew the lure had merit.

As time went on, I discussed the possible production of this lure at length with the *Weber Tackle Company*, an old and reputable fly tying firm. The officials of that company agreed that the reversal of the two component parts may be the first major breakthrough in this old reliable lure in almost half a century. They set up production and thus are currently making this "chub-chasing-fly" lure available to the public.

I really wasn't greatly surprised when that husky rainbow struck the lure early that May morning. The incident had occurred many times in the past. I admired the beautiful hue of purple mingled in with silver and touch of green on the side of that trout. Finally unhooking the lure, and placing the trout on a log for photographing. I later moved on downstream in search of other similar trout.

Every Pennsylvania angler ought to use a rearranged fly/spinner lure for those hard to catch and bragging size rainbows and browns. Further, they should use a larger size for the scrappy smallmouth bass. It's pretty well agreed among those who have used the new lure concept, that the rearranged fly/spinner will put weight in the willow creel.

MODERN CAMPING

By DEL and LOIS KERR

FORTY-ONE states across the country proudly lay claim to a section of the 154 National Forests and 18 National Grasslands administered by the Forest Service of the U. S. Department of Agriculture. Pennsylvania is fortunate indeed to be one of the few eastern states to possess such an area.

The Allegheny National Forest, in the northwestern section of the state, was proclaimed and signed into law on September 24, 1923 by President Coolidge. The area compasses about 740,000 acres and is distributed between Warren, McKean, Forest and Elk Counties.

The region has long been recognized as possessing vast recreational potential. An estimated grand total of 1,463,100 visits to the forest were recorded during 1962. This figure jumped to 1,909,400 in 1964. The swift-flowing Allegheny River yielding fine catches of bass, pike and muskellunge plus a network of productive trout streams attract fishermen and campers from considerable distance.

If you don't mind the lack of facilities, you may camp nearly anywhere in the forest that strikes your fancy. The only requirement is to first obtain a fire permit from one of the rangers (offices at Marienville, Ridgway, Sheffield and Bradford) or at district headquarters in Warren, Pa. This may be done in writing but indicate what general location you will be in, when you plan to arrive and the duration of stay.

While many persons prefer to camp at streamside locations, there are a number of small family-type campgrounds throughout the forest. The Buckaloons area, found at the juncture of Brokenstraw Creek and Allegheny River, six miles south of Warren, Pennsylvania, has long been a favorite. Fishing is excellent in both the creek and river.

The Buckaloons area was reconstructed to include forty campsites, a new water system featuring a series of fountains mounted on cut-stone masonry and flush-type sanitary facilities. A boat launching ramp is also provided.

Twin Lakes Campground, seven miles south of Kane, is the most popular camping spot in the forest at this time. The park-like area is situated in beautiful, towering hardwoods with boundaries scanning slightly over 100 acres. The seven acre lake contains approximately 800 feet of sandy beach. Life-guard service is maintained daily from 1:00 P. M. until dark.

You have a choice of sixty campsites. A fee of \$1.00 per day is charged for a group of six or less. The administration building contains a concession stand where refreshments, picnic supplies and many camping supplies may be purchased.

Interesting programs, conducted by Forest Service personnel, consist of nature talks Wednesday, Thursday and Friday evenings at 8:30 P. M.; nature hikes, usually on

Tuesday mornings, and special trips to places of interest such as a paper mill, saw mill, water fowl impoundments and others. Normal season at Twin Lakes is June 10 until Labor Day. Special programs are conducted over the entire season with the exception of the first three weeks in June.

If in the region, it would be an injustice to miss a visit to Hearts Content. The campground itself is a small area with only nine campsites. Just across the service road, however, lies a 120-acre stand of virgin white pine, hemlock and various hardwoods that almost defy description. Some of the ancient woodlot residents are over 400 years old! A "Visitation Center" is planned, with movies and slide shows at the Campfire Circle on weekends.

Other campgrounds in the Allegheny National Forest include: Loleta, with nine campsites; Kelly Pines, with six campsites; Allegheny, with five campsites and within walking distance of the Allegheny River (not feasible for travel trailers); and Minister Creek with six campsites located along the native trout stream of the same name. Beaver Meadows is still in process of development but should be open to camping. A 27-acre lake provides fishing and boating, but no swimming.

Chapman Dam State Park, near Clarendon in Warren County, is located within the forest, but not under Forest Service jurisdiction. It will be fully described at a later time.

With the completion of Allegheny River Reservoir, this region will be even more attractive than ever. Latest information from the Forest Supervisor indicates that the much-talked-about Kiasutha Recreation Area with 95 campsites will be open to the public this year. Kiasutha is located above Ludlow, in McKean County, on a long arm of the reservoir. Fishing, boating and picnicking facilities will also be provided.

Several other new forest campgrounds are planned for the reservoir. Camping facilities at Willow Bay Campground, near the New York state line in Warren County, are already under construction. Work at the Dewdrop Campground, near the reservoir dam, but on Dewdrop Creek, will begin in the very near future. Still other areas will include Sugar Run, near Klondike and Red Bridge Campground, just across the lake from Kiasutha.

In all Forest Service campgrounds, camping is conducted on a first-come, first-served basis. The normal season extended from June 15 to September 15. A camping fee of 25¢ per person (over age 16) will be made at all older campgrounds except Twin Lakes, Loleta and Buckaloons. Charges there are \$1.00 per day per party. A \$7.00 auto bumper sticker will admit occupants anytime for an entire year.

Midges—**FOR TOUGH TROUT**

PART III

By ED KOCH

It was 10:30 one evening as I sat down to write the third part of this series and as I thought of what I wanted to impart I was sorry I named the article, Midges for Tough Trout. The deed was done and the plan set so for lack of any other possibilities let's sub-title part three—Midge nymphs—or a rude awakening.

As those of you who read part two know, I was convinced at this stage of my angling career that no fly could ever come close to or even begin to take the place of the hard back black ant. Even though there were numerous trips to favorite streams when I really had to "work" to catch a few trout I still had faith in the ant. When trout hooked and released were few I could always lay the blame on the weather, water conditions or my own lack of earnest effort. It just couldn't be the fly! On one trip to the "Paradise" I was having one of those "not so good" days. I began to fish less and observe more. I noticed an angler fishing just above me hooking trout about every third or fourth cast. What secret had he found I wondered. What was he using or doing that I wasn't? I stopped fishing and just watched him as he worked his way down stream near the lower end of the project. He had out about 6 or 7 feet of line, including leader and was holding his rod horizontal to the water about chest high. Instead of casting out toward the center of the stream he would flick his rod sending his line directly upstream from where he stood and his fly landed a foot or so from shore. He hesitated just long enough to let the fly begin to sink and then as the current moved fly and line downstream he just followed along with the trip of his rod. As his line straightened out below him he just flicked the rod, cast his fly upstream again and repeated the action. I thought to myself, "this guy must be nuts" there are no trout that close to shore and that's the most unorthodox way of fishing I've ever seen. Yet regular as a clock, every few casts, his rod tip would raise up and he'd hook into another fish. Needless to say I watched and watched and watched this guy until he finally became aware that he had a one man or perhaps I should say a one boy audience. He stopped and asked "how I was doing?" That was all I needed! Immediately I inquired as to what he was using and his reply came quickly and simply, "a nymph." Next came the problem of getting him to show this secret weapon—for I was convinced that his luck had to be attributed to his fly, not his method. The nymph as he called it was a "muskrat." This posed no problem as I had heard of muskrat nymphs before. When he showed me this creature I was even more confused, the fly consisted of a "gob" of muskrat fur on a hook! No tail, no abdomen, no thorax, no whiskers, legs, wing cases or feelers of any kind. Talk about shocked—I have often wondered these many years what he must have thought of the expression on this young lad's face. He was a true member of the "angling fraternity" as I have come to call that select group of men who love trout, water, flies and the sport in general. Men who are truly dedicated to the preservation of the wonderful heritage that has been

handed down to us from generation to generation. Not all men attain that position of greatness as many we know, never the less, they all "belong." He began to talk about the fly, a size 14, why he had it tied the way it was and the reason for his unusual method of fishing.

He was more interested in color and a suggestive shape than a really life like artificial. The nymph moved by a trot so fast that the trout didn't have time to inspect it as if it were a dry fly. He told me that trout pick up numerous items from the stream bottom that look like food yet spit half of them out once they have mouthed them and discovered their mistake. He felt that a suggestive pattern would produce better than a specific looking imitation.

As for his method of fishing the nymph, the theory was that many of the trout lay in the slower moving water near the banks where with half the effort consumed in mid-stream they could pick up just as much food. Often times he observed the trout nosing the bank or rocks along the water's edge, knocking nymph life loose, backing off a little and catching the nymph as it floated helplessly by. This was his answer for fishing the edge of the water as he called it. His short line was also effective—it stayed taut and he could feel the slightest bump to his fly almost instantly. He had only to raise his rod tip a few inches and if the bump happened to be a trout mouthing his nymph—the trout was hooked—90% of the time. With this method there was no slack or curve to pull out of the line before his reaction set the hook. The moment he raised his rod tip, the line was tight, his fly moved upward and the trout was hooked.

Mentally I chalked up lesson number one from a man who was more than just fishing. He was fishing with a reason and purpose and it made sense—why not, he was catching trout when the catching was tough.

There's more to come but I want to pen this before the idea is forgotten and perhaps never written. This fellow was small of stature and slight of build. Rather young then—1946 or 48—and had *one arm!* That's right, one arm and he was outfishing 20 men with two good arms. Perhaps he is still an ardent angler as he was then. Perhaps he might even read this article or possibly someone who might know or have known him will perchance read this. If so, I would dearly love to contact or correspond with him. He kindled a spark in the heart of this young angler that has burned for years and brought much satisfaction, happiness and release. Had it not been for his taking time to chat with me and give of his knowledge and experience I might have missed the wonderful thrill of trout fishing.

I have used this method of nymph fishing for some 17 years now and it has produced fish on all types of water and under every condition imaginable. In the next part of the series I will discuss some variations in the pattern and size of the flies. How to tie them and when and why to fish them.

Boating

With Robert G. Miller

I FINALLY managed, after trying for the past year or two, to work in my summer weekend schedule a trip to Lake Wallenpaupack and discovered it to be quite an enjoyable place to spend a vacation provided you have your boat in tow.

I don't mean to imply that there are no other forms of outdoor recreation in the Poconos. You can find plenty to do—hiking, horseback riding, tennis, golf—but what boating enthusiast would enjoy sitting along the shore of that magnificent body of water with his boat tied up back home.

Tom Gangewere, a member of the Boating Advisory Board, was the first person I ran into and he sent me in the right direction to the Lake Wallenpaupack Yacht Club. Gangewere is proprietor of the Lake Harbor Marina and, from what I've been told, is perhaps the busiest man on the lake. Probably the only time he can sit back and relax is in December when the lake is covered with several inches of ice.

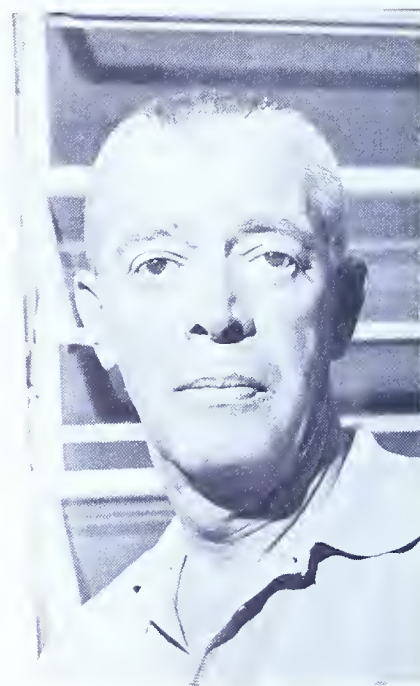
Unfortunately it was late afternoon when I arrived. The sailing activities had come to a close, only one or two people were around, but not far away I found the residence of John W. Giles who (I was in luck) happens to be president of the yacht club.

Despite the fact that he and Mrs. Giles were in the midst of preparations to receive guests that evening, Giles was certainly extremely cooperative and took a few moments to explain the origin of the club and to provide a few interesting facts concerning the organization which is the only chartered boat club on Lake Wallenpaupack.

It began back in the early 1950s. Members began selling stock in 1955 and the club was incorporated in May, 1956, with the following original members: William H. Shumacher Sr., William Patten, Ralph McClarren, Arthur Laroque, Edwin C. Winkle, John Folwell and John W. Giles.

As of this past summer the yacht club had a membership of approximately 170 persons, that is, dues paying members, although there are many more stock holders. The membership list contains many persons from northeastern Pennsylvania, the Philadelphia area, New Jersey and New York.

For awhile things went along rather well. Weekend races were held, followed up by a social gathering at the home of a member but before long the gatherings grew in size, the homes seemed to diminish in size, and the need for a club house was clearly defined with no ifs, ands or buts.



JOHN W. GILES, Tafton, Lake Wallenpaupack Yacht Club president.

Right now I doubt if you could find even one square foot of land available along the lake but about five or six years ago the club managed to acquire a sizeable tract of land, which provides 275 feet of lake frontage, and construction began in August, 1959.

The finished product was a two story lodge type structure, of a rather rustic design which one expects to find in that section of the state, with plenty of glass to afford an excellent view of the lake.

On the first floor is a large comfortable lounge, complete with overstuffed chairs and wall-to-wall carpeting; in the rear are rest room facilities and upstairs is a large dining area, quite suitable for weekend social activities; kitchen and bar.

The Lake Wallenpaupack Yacht Club, as a whole, is mainly a social organization but it contains two sailing organizations which, in effect, operate independently of the parent organization.

There is the Paupack Lightning Fleet 16 of which Mrs. John Folwell and John Folwell, 3757 Turner St., Allentown, are secretary-treasurer and fleet captain, respectively; and the Sunfish Fleet 8 which is captained by Roger H. Compton, 75 Valley Ave., Locust Valley, N.Y.

In 1964, Mrs. S. Graham Hamilton, 1873 Eastman Ave. Bethlehem, was serving as secretary-treasurer of the Lightning Fleet (Mr. Giles informs me there are about 20 Lightnings in operation with 17 races each season) who provided at that time quite a few facts concerning the local sailing activities.

Because of the size of the lake, Mrs. Hamilton wrote that sailing is quite a popular sport with sailing craft of all kinds, from 8 foot sailing prams to 22 foot Star Class boats, to be seen on the lake. However organized racing centers at the yacht club.

The Paupack Lightning Fleet is one of the oldest of more than 350 fleets established all over the world as noted



SIDE VIEW of the Lake Wallenpaupack Yacht Club headquarters looking toward the lake from the parking area.

by its number 16. Its members do most of their racing on the lake although occasionally someone may go in for regatta hopping and compete against skippers elsewhere within or outside the Commonwealth. One of these is Henry Fretz, of Edison, Pa., who competed, in past years, in several major events including the North American Championships in Detroit, Mich.

Although you will find a large number of powerboats on the lake, relations between the sailboater and powerboater are usually pretty good although occasionally the latter may fail to yield the right of way and, in so doing, break up a nice racing pattern.

Often, Mrs. Hamilton mentioned, folks cruising in powerboats will spot a cluster of sailboats and speed over to see what is going on. Or, even worse, at high speed they race unconcernedly through a racing fleet causing the skippers "much anguish."

A large wake from a speeding boat causes the wind to spill from sails and the hull of the sailboat pounds on the waves, thus greatly reducing its speed.

Mrs. Hamilton explained that any cluster of several sailboats of the same class is usually racing and the skippers certainly appreciate it if the outboard or inboard owner steers wide of the course or cuts his speed to reduce his wake as he goes through the race course.

Incidentally, before I forget, in addition to Giles as president of the organization, Frank Paysley, Springfield, is vice president; Richard Entwisle, Philadelphia, is treasurer; and Mrs. Harold P. Compton, Tafton, secretary.

Giles, a former resident of New Jersey, now resides about two or three cottages away from the yacht club. Apparently he and his wife hated to return home after a day or two at the lake and built their residence in a rather choice location about 12 years ago.

I have a standing invitation to visit them again, and a similar one from Tom with a cruise of the lake as an incentive, so I intend to take advantage of both if not this year it will be next year for sure.

Although you could probably make better time traveling by taking Rt. 209 up to Milford and then Rt. 6 into the lake area (I did on my return trip) I found Rts. 290 and 507 much more scenic and can imagine what it would be



PART OF THE DOCKING AREA, and parking space, at the Lake Harbor Marina, operated by Tam Gangewere, located just off Rt. 507 along the south side of Lake Wallenpaupack.

like in the fall when the foliage turns from green to the vivid reds, oranges and yellows of autumn.

That, to me, is sometimes the best time for traveling and boating.

I've often wondered, and so do many other boaters, why the famous "Mae West" inflatable life vest, "navy type" life preservers and ski belts are not approved by the U. S. Coast Guard?

A recent release from the USCG indicated that pneumatic devices, such as the "Mae West," require inspection, care and maintenance beyond the facilities of the vast majority of boat owners. There is the danger of puncture or rupture, surplus jackets would probably not be in A-1 condition even when purchased and, in most cases, inflatable life vests would be a safety hazard in time of need.

The USCG admits that "navy type" life preservers give superior protection against drowning, but tests have proved them too complicated for use by the untrained public. For one thing, they are not reversible and, for another, they normally have seven straps, whereas the "Coast Guard approved" types have three or less.

When will the Coast Guard approve a good ski belt? Never! Because they float an unconscious person with his face in the water.

What is the difference between a life preserver and a buoyant vest? Buoyancy! A life preserver, which meets regulations on all ships, passenger carrying boats and pleasure craft, provides about 22 pounds of buoyancy whereas a buoyant vest, acceptable on classes A, 1 and 2 motorboats not carrying passengers for hire, provides only about 16 pounds of buoyancy.

In the same release the Coast Guard verified the importance of lifesaving devices in pleasure boats through its recently completed study of last year's boating accidents. Of the 1,057 boatmen who drowned, 1,034 had no lifesaving devices of any kind.

Give this some thought the next time you head out from shore without an approved life preserver on board which will, in time of an emergency, turn even an unconscious person right side up and float him with his face out of water.



Notes FROM THE STREAMS

■ Fishermen have found that it takes patience to discover the time of the day or night that the fish are feeding in Lake LeBoeuf. Walleye were feeding on the surface between midnight and two in the morning this fall. Several nice catches were taken during these hours using a rapala lure.—**District Fish Warden NORMAN E. ELY** (Erie).

■ While working along French Creek on a chilly fall day, I met an elderly gentleman fishing from the bank. His rods were old and very heavy and he was using large chubs for bait. During the course of our conversation he told me that when he left his native Hungary some thirty odd years ago, the two things he hoped to find in America were a job and fishing as good as he knew in Hungary, where at one time northern pike and trout were plentiful and the public was permitted to fish. He had been fishing ever since he was settled here and was quite happy with the results. His two rods came from Hungary, and it was quite obvious they worked fine here in America as he had four dandy walleye on his stringer.—**District Fish Warden THOMAS L. CLARK** (Crawford).

■ Deputy Game Protector Okresic and I answered a farmer's complaint that a hunter was driving on his fields. When we arrived at the property we found the car parked in his field and the hunter's wife in the car, reading, while she waited for her husband's return. In a little while the hunter came back to the car, and because he was from out of the state we took him to a J. P. for arraignment. At the hearing he was found guilty and was ordered to pay the fine and costs. He asked the J. P. what would happen if he refused to pay and was told he would be put in the county jail. He thought about this for a bit and then wanted to know if it would be possible to put his wife in jail and let him go, for after all she was the one who was in the automobile while it was parked in the field, for he was out hunting.—**District Warden RICHARD ABPLANALP** (Mercer-Lawrence).

■ Recently I had a conversation with a young fellow who had done some fishing in Beechwood Lake this summer. He told me he caught the largest rock bass he had ever seen while fishing in the lake one Sunday. I asked him to describe the fish, and from his description, I told him I believed he had caught a nice black crappie. He said he had never heard of them and wondered how they got there. I explained the stocking of them by transferring them from the western part of the state. He was glad to hear what the Fish Commission is doing in management work on the new lakes they are building.—**District Warden RAYMOND HOOVER** (Tioga).

■ Late last season, I had the pleasure of accompanying a local Girl Scout Troop led by Mrs. William Noerr to the Benner Spring Research Station. The field trip was a part of their conservation education program. Mrs. Noerr and the girls commented that this had been one of their most enjoyable and educational trips. They were quite impressed with the "extra effort" on the part of the Fish Commission personnel. They received an excellent guided tour and when adverse weather dampened their plans for a cook-out, they were given the use of the Administration Building, which houses our warden training school.—**District Warden RICHARD OWENS** (Mifflin-Juniata).

■ While assisting District Game Protector Jacob Sitlinger of Perry County on the opening day of deer season, I had the pleasure of checking Mr. Paul Chauncey of Lancaster, who was doing his hunting and fishing near Gibsons Rocks on Sherman's Creek. The unique thing about Mr. Chauncey was that he had a rod in the water and was fishing for suckers and bass, but in addition to this, he was in possession of a loaded shotgun and rifle. I inquired as to the reason for all of the equipment and he related that the rod was for catching fish, the rifle for shooting a deer, and the shotgun for ducks. I did not have the opportunity to return to the area on the same day, so I do not know the outcome of the trip for Mr. Chauncey, but I am sure he was successful in taking home some type of meat.—**District Warden PERRY D. HEATH** (Cumberland-Perry).

■ A drag line was working in the muck at Bunnell's Pond, near Honesdale in Wayne County. In one of the scoops it made along the water's edge, a fifty-seven pound turtle was uncovered.—**District Warden HARLAND F. REYNOLDS** (Wayne).

■ With the opening of the Fish Commission's access road to Mountain Springs Lake, a veritable wilderness fishing area is now readily available to those to whom the initial five and one-half mile hike was a bit stiff. One can now drive to the main parking lot at the lake or park along the road at any of the numerous parking spots enroute and hike to more remote brooks and beaver ponds that dot the countryside.

This, however, is not where the benefits end. Last autumn, hundreds of sightseers took advantage of the unending variety of scenery along the road to the lake. Deer hunters were among those who benefitted most. A spot check each day for the first week of the season found not less than 422 cars parked along the access road and at the various parking areas.—**District Warden JAMES F. YODER** (Sullivan and Luzerne).

■ Garland Archer, of Pleasantville, Pa., who more or less holds the title of musky champion in the Tionesta area, had a very unusual experience while jig fishing in the Allegheny River near West Hickory.

Archer had caught one walleye and one musky, but both fish being below the standard that he calls "keepers" (20 inches for walleye and 35 for musky) he returned them to the river to "grow up."

Making another cast, he had a feeble jerk and the line became tight and started up the river. Archie was puzzled as to the action of the fish and began to play it most carefully. Suddenly the line slackened and he reeled in.

To his surprise, a lamprey, commonly called the Ohio lamprey, was securely hooked in the middle. The only supposition was that the lamprey was attached to some species of fish and when the jig passed the fish, the lamprey was foul hooked and held on to the fish for some time until it was able to detach itself. On the following day, John Holtz, also of Pleasantville, foul hooked another Ohio lamprey while jig fishing in the same eddy.

This species of lamprey has been native to the Ohio drainage for many years, and although it often attaches itself to various species of fish it is not considered a serious predator. Fishery workers are constantly on the alert for scars and marks on fish from these predators, but at this time it seems that the main predation is on the softer scaled fish such as suckers and minnows.

Another interesting observation of this predator is the fact that populations vary greatly from year to year. Many summers will come and go and there will be little or no sign of lampreys in the area. Then there will be years when they seem to be in all of the larger trout streams as well as in the river. They are not all bad, since stomach analysis has shown the larger game species, such as northern pike, walleye and musky, feed upon them whenever they are available.

How many of us stop to think of the difference between game and fish management. Our hunters are always seeking the non-predator for their sport while the fisherman who seeks bass, trout, walleye, northern pike and muskellunge is selectively fishing for predators.

Interesting—isn't it.

—Regional Fish Warden Supervisor **S. CARLYLE SHELDON**.

■ While on patrol at Lake Wallenpaupack late last summer, I checked a boat with two men fishing the bottom of the lake for walleye. Upon checking their catch and bait I uncovered a large whitefish (shallow water Cisco). They had thought the fish was illegal and had hidden it. Each year several of these nice fish are caught and are from 18 to 23 inches in length.—District Warden **HARLAND F. REYNOLDS** (Wayne).

■ The open water fishing at Lyman Run Lake has been fabulous during the beginning of December. During this period I know there were more fishermen than hunters in this area. Many of the trout caught were stocked by the Potter County Anglers Club and were jaw tagged. A good many jaw tagged trout in the 3 to 5 pound class were taken.—District Fish Warden **KENNETH ALEY** (Potter).

■ There were many nice trout taken from Beechwood Lake during December. One angler told me that he made quite a few trips to the lake to fish the open water and caught trout with various baits and spinning lures. One catch he made was with a March Brown wet fly. This shows that one never knows just what fish will be hitting at any certain time.—District Fish Warden **RAYMOND HOOVER** (Tioga).

■ While on patrol along the Susquehanna River, I came upon a fisherman with an unusual technique. He was inflating a balloon and tying it to his line three feet above the minnow he was using for bait. By leaving it drift, the balloon would float downstream very rapidly. When a bass hit it it would pull the balloon under causing it to burst, leaving nothing between the fisherman and Mr. Bass but line, sometimes as much as 200 feet. I can't say if this will work for everyone, but all one needs for trying is a good set of lungs and some children's balloons.—District Warden **SAMUEL W. HALL** (Lancaster-Lebanon).

■ While patrolling the Susquehanna River in mid-November, I stopped to talk to Bill White who lives at Whites Ferry and has a boat concession there. Bill is an old river fisherman who specializes in walleye. He informed me that since the first of October he had taken 39 walleye and one musky. The walleye that he counted were not less than 20 inches and some were as long as 27 inches. The musky was 32 inches in length.—District Warden **STEPHEN A. SHABBICK** (Wyoming).

■ Special Fish Warden Herman Wiedenheft of Edinboro received a telephone call saying that a deer was stranded on Edinboro Lake, midway between the Canoe Club and Green Point on the newly-formed ice. The deer was unable to stand up and was continually thrashing around. As the ice was unsafe to walk on, Herman and Al Shaffer borrowed a flat bottom aluminum boat and used two ice spuds to move the boat out on the lake for the rescue. Upon reaching the deer they hog-tied it and loaded it aboard the boat and returned to shore, where about fifty persons had gathered to watch the rescue. The deer was loaded into a pickup truck and released in a nearby wooded area. Herm has been patrolling Edinboro Lake for about ten years, and this is the first rescue of this type that he has had to perform.—District Fish Warden **NORMAN E. ELY** (Erie).

■ The unusually mild weather we had in the latter part of December and early January prompted some of the die-hard fishermen to rig up their tackle and do some fishing. During this period I checked some very nice fish, including a few large bass. One unusual incident which I experienced at that time was the sighting of a Green Heron during the last week of December and a Great Blue Heron the first week of January. The Blue Heron was fishing in a backwater for suckers and carp and I saw him land a carp about 15 inches long. Even the birds are mixed up, for at this time they are usually wintering far to the south.—District Warden **RAYMOND A. BEDNARCHIK** (Chester and Delaware).

FEDERATION TO OBSERVE FISH COMMISSION'S CENTENNIAL

**CLARENCE F. PAUTZKE, COMMISSIONER
OF U. S. FISH AND WILDLIFE
SERVICE TO SPEAK AT
MARCH 25 DINNER**

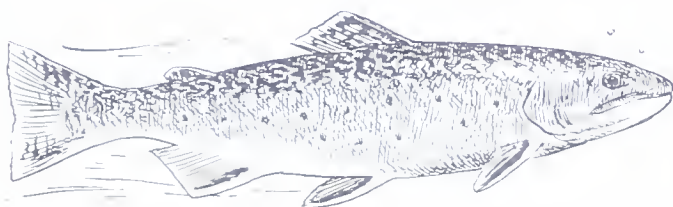


**U. S. Fish and Wildlife Commissioner
CLARENCE F. PAUTZKE**

The Pennsylvania Federation of Sportsmen's Clubs, under the direction of John F. Laudadio, president, will honor the Pennsylvania Fish Commission's 100 years of conservation service to the Commonwealth at their March 25, 1966 dinner at Nationwide Inn, Harrisburg, Pa.

The speaker will be Clarence F. Pautzke, commissioner of the U. S. Fish and Wildlife Service, Department of the Interior, Washington, D. C. Mr. Pautzke is also serving as deputy assistant secretary, of Fish and Wildlife and Parks. He is a native of Auburn, Washington, graduated from the University of Washington with a Bachelor of Science degree. He has been active in many important game and fisheries posts in the State of Washington, Alaska and Washington, D. C.

All of the past and present Fish Commission members have been invited to the dinner where they will be individually honored for their services to conservation and Pennsylvania's fishermen.



ANNUAL WILDLIFE MEETING AT PITTSBURGH, MARCH 11-13

Final planning is now under way for the 30th annual meeting of the National Wildlife Federation which will be held March 11-13, 1966, at the Pittsburgh Hilton Hotel, Pittsburgh, Pa. Under Federation by-laws, the annual meeting is the governing body of the Federation. Each state affiliate is entitled to send one delegate to the meeting, at Federation expense. These delegates compose a sort of "Congress" which determines matters of basic policy and elects the Federation's officers.

The opening session of the three-day meeting is scheduled to start at 9 a. m., Friday, March 11 in Ballroom 2. Judge Louis D. McGregor of Flint, Mich., president of the National Wildlife Federation, will deliver the address of welcome, followed by reports by the President, Secretary, Treasurer and Executive Director. Friday afternoon will be devoted to various committee meetings. Regional roundtable discussions, a highlight of recent Federation meetings, will be conducted Friday evening. These discussions, featuring panels of qualified speakers, center on conservation issues and problems of regional interest in the East, Northeast, Southeast, Midwest and West. Each is led by a Federation field representative.

The program schedule for Saturday, March 12, features workshop sessions and the report of the Resolution Committee. The Federation's annual luncheon will be held in Ballroom 1 at noon. The final business session will be held Sunday morning, March 13, starting at 9 a. m. An election will be held to fill the offices of president, vice-president, and four regional directors.

PITTSBURGH HOST TO 31ST NORTH AMERICAN WILDLIFE CONFERENCE

Natural resources administrators, biologists, technicians, outdoor writers and sportsmen from the United States, Canada, Mexico and other countries are expected to attend the 31st North American Wildlife and Natural Resources Conference that will be held at the Hilton Hotel in Pittsburgh, March 14-16. The 1965 conference was held in Washington, D. C.

The two general and six technical sessions that make up the three-day conference program are open to the public, and all interested persons may register and attend without charge. More than 50 presentations will be made during the course of the meeting by many of the knowledgeable and best informed natural resources workers in North America.

REPRESENTATIVE LAUDADIO RECEIVES PRESIDENT'S CONSERVATION AWARD



United States Secretary of Agriculture Orville L. Freeman, Jr., presents Representative John F. Laudadio, Sr., of Jeannette, Pennsylvania with the "Conservation Legislator of the Year" award at the President's Conservation Awards Banquet held on January 11 in the Presidential Ballroom of the Statler-Hilton Hotel in Washington, D. C.

The award, co-sponsored by the National Wildlife Federation and the Sears-Roebuck Foundation, was presented to Representative Laudadio in recognition of his efforts in the passage of the 1963 Strip Mines Act and the Clean Streams Act of 1965 in the Pennsylvania General Assembly.

The banquet climaxed a nationwide conservation awards program designed to select and honor individuals and organizations for outstanding contributions to the cause of conservation.

Mrs. Lyndon B. Johnson, who represented the President in honoring the national conservation award winners, received an award for her highway beautification program.



ADMIRING "PRINCE HENRY" AWARD presented to Delaware River Power Squadron are left to right: Lt. John Wrenn, N; Cmdr. Ira Hann, AP; and Lt. Ansan Cunningham, N. Presentation was made by Portuguese Government at ceremonies which took place at District 5 Education Conference in Annapolis, Md. on November 21, 1965.



PENNSYLVANIA FISH COMMISSION meets to observe its 100th Anniversary at Harrisburg. L-R—Gordon Trembley, assistant executive director, Edward Tharp, assistant executive director, watercraft safety, Douglas McWilliams, Joseph Critchfield, R. Stanley Smith, Wallace Dean, Howard Heiny, all commission members; Robert J. Biela, executive director and Robert Rankin, commission president. Commission members Gerard Adams, John Grenable and Raymond Williams were absent when picture was taken. Ralph Cady photo.

NEW FEATURE ATTRACTIONS AT LINESVILLE OPEN HOUSE

The annual Open House at the Linesville Fish Cultural Station will be held Sunday, April 24, 1966.

Shyrl Hood, Superintendent of the Station, said that new features and attractions are expected to be added this year.

Several thousand persons visited the open house last year to witness modern methods of warm water fish culture.

The Linesville station is located on the sanctuary area of Pymatuning Reservoir, one mile south of Linesville, off U. S. Route 6. It is exclusively a warm-water facility devoted mainly to the propagation of bass and muskellunge and to collecting fish from the sanctuary area of the Pymatuning Reservoir for distribution throughout the Commonwealth.

The public is cordially invited to attend the open house, and Commission personnel will be on hand to demonstrate and explain the various activities.

By 1980 we will be taking more than four times as much water from streams and reservoirs as we did in 1940.

* * *

We cannot live without water . . . water to drink, water to play on or swim in, water to provide an atmosphere to relax in, water to transport merchandise, water to make industry function and commerce to proceed, water for personal comfort, water for an endless variety of tasks.

* * *

We consider water as the cheapest commodity next to air . . . yet water, like air, is priceless.

* * *

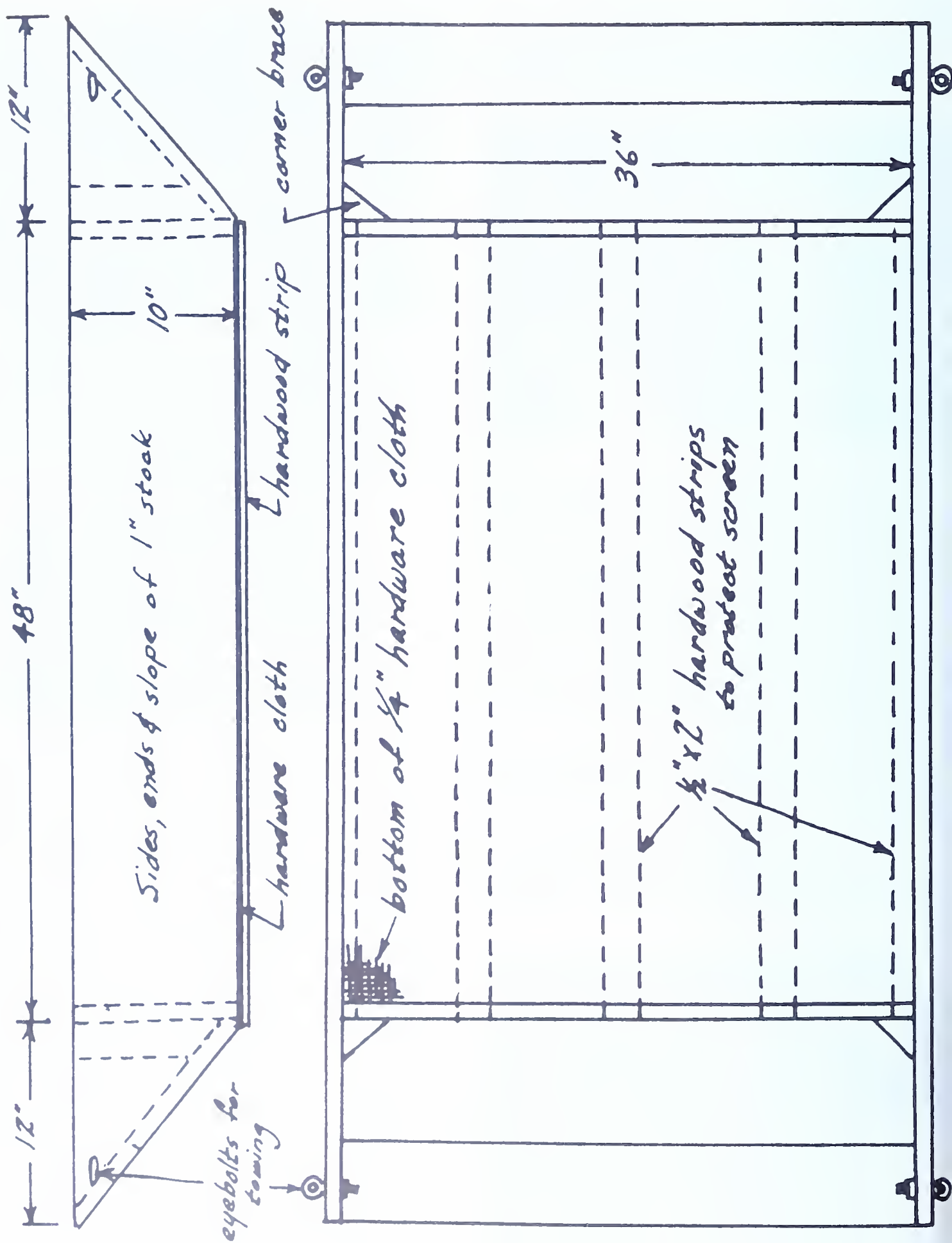
If we maintain an adequate supply of clean, pure water to sustain all the uses which we have as individuals, then we can be sure of meeting all the other needs.

* * *

So let us resolve here today to push further the light of knowledge . . . to learn how better to conserve and use this priceless resource of water.

* * *

SMALL LIVECAR FOR SCATTERING FISH



MANY SPORTSMEN have requested plans for a small livecar for use in scattering fish at the time of stocking. The above plan is for a livecar which has been used successfully in Pennsylvania. This car can accommodate from 200 to 250 legal size trout. If a shorter car is desired, one of the "ends" may be omitted.

DEPUTY WARDENS MEET AT INDIANTOWN GAP

Forty-eight special fish wardens of the Pennsylvania Fish Commission's Southeast Region attended the first regional training program offered by the Commission on Saturday, January 8, 1966, at the Indiantown Gap Military Reservation.

Speakers at the meeting included Robert J. Bielo, executive director of the Commission; Warren W. Singer, assistant to the executive director; Edward R. Tharp, assistant executive director in charge of watercraft safety; W. W. Britton, chief law enforcement officer; George W. Forrest, director of public relations; Howard Fox, superintendent of hatcheries; John Ogden, information specialist; Robert Brown, coordinator of cooperative nurseries, and Budd Brooks of the Benner Spring Research Station. All of the fish wardens of the region were also present.

The staff members discussed various Fish Commission activities and explained how the special fish wardens could be most helpful in the future. Particular emphasis was given to the importance of good public relations.

The meeting was conducted by Regional Warden Supervisor Harold Corbin and Assistant Supervisor Miles D. Witt, who commended the special wardens for their valuable assistance and cooperation in the past.

David Groy, of Hershey, has served as a special warden for 28 years; Robert Leister of Red Hill, James Pence of Lebanon and Paul Daubenspeck of Allentown have over 25 years service, and Charles Schwartz and Edward Mary of Bethlehem and Thomas Rogers have between 15 and 20 years of service.

Special guests included retired wardens George James of Carlisle and Horace Pyle of Downingtown; General Richard Snyder, General Van H. Bond and Mr. Frank Schaeffer of the Indiantown Gap Military Reservation; Dean Klinger, watercraft safety officer, and regional warden supervisors John Buck of Somerset, Clair Fleeger of Honesdale, and assistant regional supervisors Lee Shortess of Somerset and Walter Lzusky of Peckville.



REGIONAL SUPERVISOR Harold Corbin with a group of special wardens at Indiantown Gap Meeting.

FIRST COOPERATIVE NURSERY WORKSHOP HELD AT RIDGWAY



COMMISSION PERSONNEL at Cooperative Nursery Workshop held at Ridgway, Feb. 6. Left-right—Howard Fox, chief—Pennsylvania Fish Commission's Propagation and Distribution Division; Keen Buss, chief—Research and Fish Management Division, Regional Warden Supervisors John Buck and S. Carlyle Sheldon; Robert Rankin, president of the Pennsylvania Fish Commission and John Ogden of the Public Relations staff.

The Pennsylvania Fish Commission held its first annual Cooperative Nursery Workshop on February 6, at the Elks Lodge in Ridgway, Pa.

Over 100 Federated Sportsmen from Northcentral and Northwestern Pennsylvania and representatives of the Fish Commission were present for the conclave.

The meeting was opened by a welcome to all from Commission President Robert M. Rankin, of Galeton. Mr. Rankin spoke to the assembly about the importance of the Cooperative Fish Nursery Program in the State and pointed out that there are 60 cooperative nurseries in the Fish Commission program and they contribute over 200,000 brook, brown and rainbow trout to the streams of Pennsylvania. Commissioner Rankin presented "Outstanding Service Awards" to all operators of cooperative nurseries and thanked them for their continuing support of the Pennsylvania Fish Commission.

Fish Commission personnel present included: John Ogden, public relations representative; Robert Brown, cooperative nursery coordinator; S. Carlyle Sheldon, regional warden supervisor; Howard Fox, superintendent of hatcheries; Keen Buss, chief of the Division of Research and Fish Management; John Buck, Southwest regional warden supervisor, and Lee Shortess, assistant regional warden supervisor.

DIRECTORY OF BLUE BOOK AGENTS

Additional places for subscribing to the **PENNSYLVANIA ANGLER** and where the latest and newest Pennsylvania Fish Commission **FISHING REPORTS** and **INSTANT INFORMATION** are available.

- Berks County—Kagen's Inc., Reading, Penna.
Bucks County—Andrew Maroney—Andy's Sport & Hobby Shop, Yardley, Penna.
Cambria County—Shoff Sporting Goods, Ebensburg, Penna.
Chester County—Daniel W. Bullock, Berwyn, Penna.
Franklin County—P. Paul Overcash, Chambersburg, Penna.
Jefferson County—Deman's Sporting Goods, Brookville, Penna.
Lackawanna County—Eynon Drug, Eynon, Penna.
Lackawanna County—Edward Rebar, Throop, Penna.
Lehigh County—Gerald T. Charleski, Allentown, Penna.
Lehigh County—Paul Daubanspeck, Allentown, Penna.
Lehigh County—Pete Nestor, Nestor's Sporting Goods, Inc., Allentown, Penna.
Northampton County—Charles Schwartz, Bethlehem, Penna.
Schuylkill County—Joseph Kopena, Mary-D, Penna.
Susquehanna County—Halls Sporting Center, New Milford, Penna.
Warren County—F. J. Erich Sporting Goods Store, Irvine, Penna.
York County—Harry Haines, Lincoln Highway Garage, York, Penna.
York County—Squab's Outdoor Shop, York, Penna.

Tip-Of-The-Month

By C. BOYD PFEIFFER



TYING LEADERS TO SMALL FLIES

One of the most frustrating experiences for the trout fisherman is to be on the stream at an evening rise and not be able to thread a fine leader tippet through the eye of a small fly. There have been many remedies suggested for this—magnifying glasses, special flashlights, and combinations of both. One of the easiest solutions costs and weighs nothing and can be prepared in less time than it takes to read about it. A small two-inch square of white paper will enable you to tie the tiniest fly on easily even if the light is poor and you have bad eyesight. Push the eye of the hook through the center of the paper square. The hook eye will show up clearly against the white background, the paper will keep the hackles out of the way, and the leader can be easily threaded. Tie the knot, tear away the paper and it's done. Two-inch squares cut from a sheet of paper and placed in your wallet will give you a season's supply and assure that they are always with you.

The natural beauty of lakes and streams, fields and forests, and grasslands and wetlands enriches our lives, the National Wildlife Federation reminds. However, these assets are in real danger of being damaged or lost in the growing competition from other uses of lands and waters. This problem will continue to grow as the nation's human population mounts. National Wildlife Week, March 20-26, is a period when people consider how natural beauty can best be preserved.

* * *

America's majestic beauty of rocks and rills and templed hills is in danger. The spread of highways, airports, industrial parks, and residential areas must be planned with a view toward protecting a maximum of the outdoors. The pollution of waters must be stopped. Learn what you can do to preserve natural beauty during National Wildlife Week, March 20-26.

* * *

Water pollution damages the natural beauty of lakes and streams and bays, the National Wildlife Federation reminds. During National Wildlife Week, March 20-26, all conscientious citizens are invited to join in efforts to preserve natural beauty. Controlling water pollution would be a real contribution to conservation—and to the preservation of natural beauty.

FREE COLOR CHART

COMMON FISHES OF PENNSYLVANIA

WITH ALL NEW
AND RENEWAL SUBSCRIPTIONS
TO *Pennsylvania Angler*

Enclosed is \$..... for my (New) (Renewal)
(Gift Subscription)

1 year (12 issues) \$2.00

3 years (36 issues) \$5.00

Please send to:

Name

Address

Town Zip Code

Make check or money order payable to the Pennsylvania
Fish Commission

Mail to—PENNSYLVANIA FISH COMMISSION
HARRISBURG, PA.

Cash sent at your own risk. STAMPS NOT ACCEPTABLE.



SCHOOL'S OUT!

BY WED. SMITH

FLY CASTING IS EASY

Last month we discussed selecting a fly fishing outfit; this month we'll talk about using it. Half the fun of fly fishing is casting well, so let's start with that.

In spinning and plug casting you cast the lure and its momentum pulls the line from the reel. In fly fishing, however, you cast the heavy line and it drags the fly with it.

By attaching a leader but no fly you can learn the fundamentals of fly casting while practicing on a lawn or on a pond. First, get the feel of your outfit by waving the rod back and forth, slowly but firmly, with fifteen or twenty feet of line beyond the tip-top. Pause at the end of each stroke to allow the line to straighten out. This is called "false casting." If the leader snaps like a whip you aren't pausing long enough between strokes.

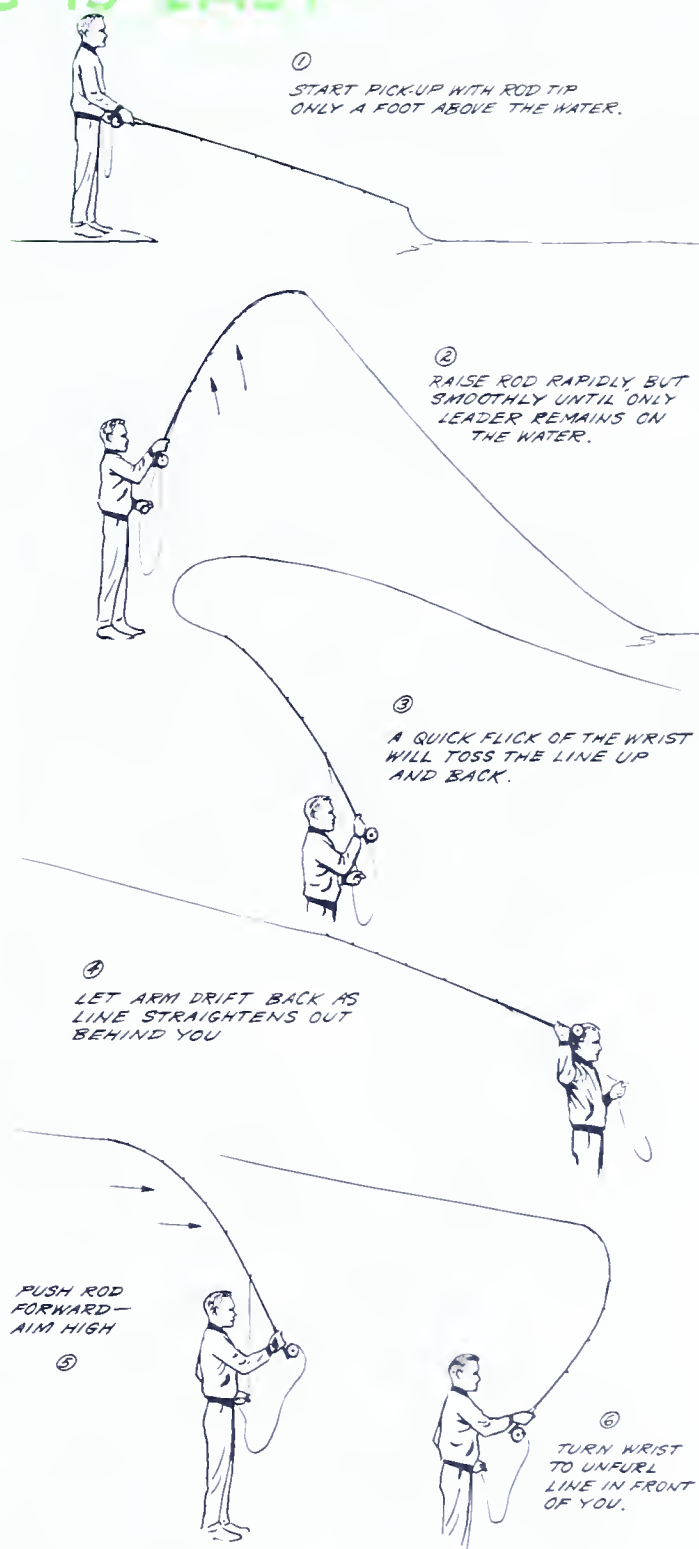
Pull some line off the reel and allow a few feet of it to slip through the guides at the end of each stroke; this is one way the line can be extended to reach a distant target.

Now try a basic cast. Strip in all but twenty feet of line and lay it on the water in front of you (assuming you are practicing on a pond). For a smooth and easy pick-up hold the rod tip only a foot above the water and pull in all slack. Now lift the rod rather quickly but smoothly as though pushing it straight up into the air, and when only the leader remains on the water an upward flick of the wrist will send the line sailing up and back over your right shoulder. This is the back cast, and it should be kept as high as possible.

At the end of the back cast pause as you did when false casting, letting the right arm drift back with the rod. Just before the line can drop behind you bring the rod forward, pushing it straight ahead rather than switching it down with the wrist. Aim five feet above the water. When you've reached as far forward as you can, turn over the wrist as though driving a nail into a wall, and the line will unroll completely before dropping to the water. This completes the cast.

Watch for these six common mistakes: (1) Starting the pickup with the rod tip too high. (2) Trying to yank the line off the water. (3) Tossing the back cast too low. (4) Not pausing long enough on the back cast. (5) Switching the rod downward on the forward cast. (It helps to lower the elbow as you bring it forward.) (6) Aiming at the water instead of five feet above it.

"Shooting line" is the best way to make long casts. Strip the necessary amount off the reel and hold it in your left hand. Now make a complete cast, adding a bit more force to the forward cast than usual. Just as the line unrolls let the slack slip through the fingers of



your left hand. The line will "shoot" out there ten or twelve feet, taking the slack with it.

With practice you can become a good fly caster; it is not as difficult as plug casting. If you have trouble ask someone to watch you cast. They'll probably discover you are making one or more of the mistakes listed above.

PENNSYLVANIA FISH COMMISSION

Centennial Week

MARCH 27 – APRIL 2, 1966

IN HONOR OF

100 YEARS OF SERVICE

CONSERVING THE NATURAL RESOURCES OF

PENNSYLVANIA

APR 14 1966

Pennsylvania Angler



JOHN F. LARK - Q

PENNSYLVANIA STATE LIBRARY

PENNSYLVANIA FISH COMMISSION DIRECTORY

EXECUTIVE OFFICE

ROBERT J. BIELO
Executive Director

GORDON TREMBLEY
Assistant Executive Director

EDWARD R. THARP
Assistant Executive Director
Watercraft Safety

WARREN W. SINGER
Assistant to Executive Director

PAUL F. O'BRIEN
Administrative Officer

JOHN M. SMITH
Comptroller



DIVISION DIRECTORS

KEEN BUSS
Research and Fish Management
R. D. 1—Box 200-C
Bellefonte, Pa.—16823

HOWARD L. FOX
Propagation and Distribution
Bellefonte, Pa., R. D. 3—16823

GLEN SPENCER
Real Estate
Harrisburg

EDWARD MILLER
Engineering
Bellefonte, Pa., R. D. 3—16823

WILLIAM W. BRITTON
Law Enforcement
Harrisburg

ARTHUR BRADFORD
Pathology
Bellefonte, Pa., R. D. 1—Box 200-C
16823

GEORGE FORREST
Public Relations
Editor
Harrisburg



REGION ONE

S. CARLYLE SHELTON Warden Supervisor
Tionesta 16353 Phone: 814-755-8811

REGION TWO

JOHN I. BUCK Warden Supervisor
R. D. 2, Somerset, Pa. Phone: 814-445-4913

REGION THREE

CLAIR FLEEGER Warden Supervisor
351 Terrace St., Honesdale, Pa.,
Phone: 717-253-3724

REGION FOUR

HAROLD CORBIN Warden Supervisor
R. D. 2, Annville, Pa.,
Phone: 717-273-2601, Ex. 86
I. G. M. R. 17003

Pennsylvania Angler

Published Monthly by the
PENNSYLVANIA FISH COMMISSION
COMMONWEALTH OF PENNSYLVANIA

William W. Scranton, Governor



PENNSYLVANIA FISH COMMISSION

ROBERT M. RANKIN, President Galeton
HOWARD R. HEINY, Vice President Williamsport

GERARD J. ADAMS Hawley
JOSEPH M. CRITCHFIELD Confluence
WALLACE C. DEAN Meadville
RAYMOND M. WILLIAMS East Bangor

JOHN W. GRENOBLE Carlisle
DOUGLAS MCWILLIAMS Bear Gap
R. STANLEY SMITH Waynesburg



APRIL, 1966

VOL. 35, NO. 4

Contents

- 4 OPENING DAY TIPS—Ed Koch
- 7 TROUT FISHING IN GOD'S COUNTRY—Michael H. Skurecki
- 10 FISHERMAN'S FAIRWAY—Ray Ovington
- 12 THE OL' ONE-TWO!—S. R. Slaymaker, II
- 16 DOUBLE YOUR FISHING FUN—WITH ULTRA-LIGHT TACKLE—
Joseph D. Bates, Jr.
- 18 TROUT DAY ON LITTLE SCRUBGRASS—Joan Swartz Swigart
- 19 MR. "BROOKIE"—George W. "Heap" Alexander
- 20 EXPERIENCE WITH A BROWN TROUT—Ed Skilton
- 22 DIRECTORY OF PENNSYLVANIA MARINAS—ACCESS AREAS—
BOAT RENTAL FACILITIES—Robert G. Miller
- 24 NOTES FROM THE STREAMS
- 28 TROUT STREAM INSECT EMERGENCE TABLES—Charles M. Wetzel
- 29 SCHOOL'S OUT—Ned Smith

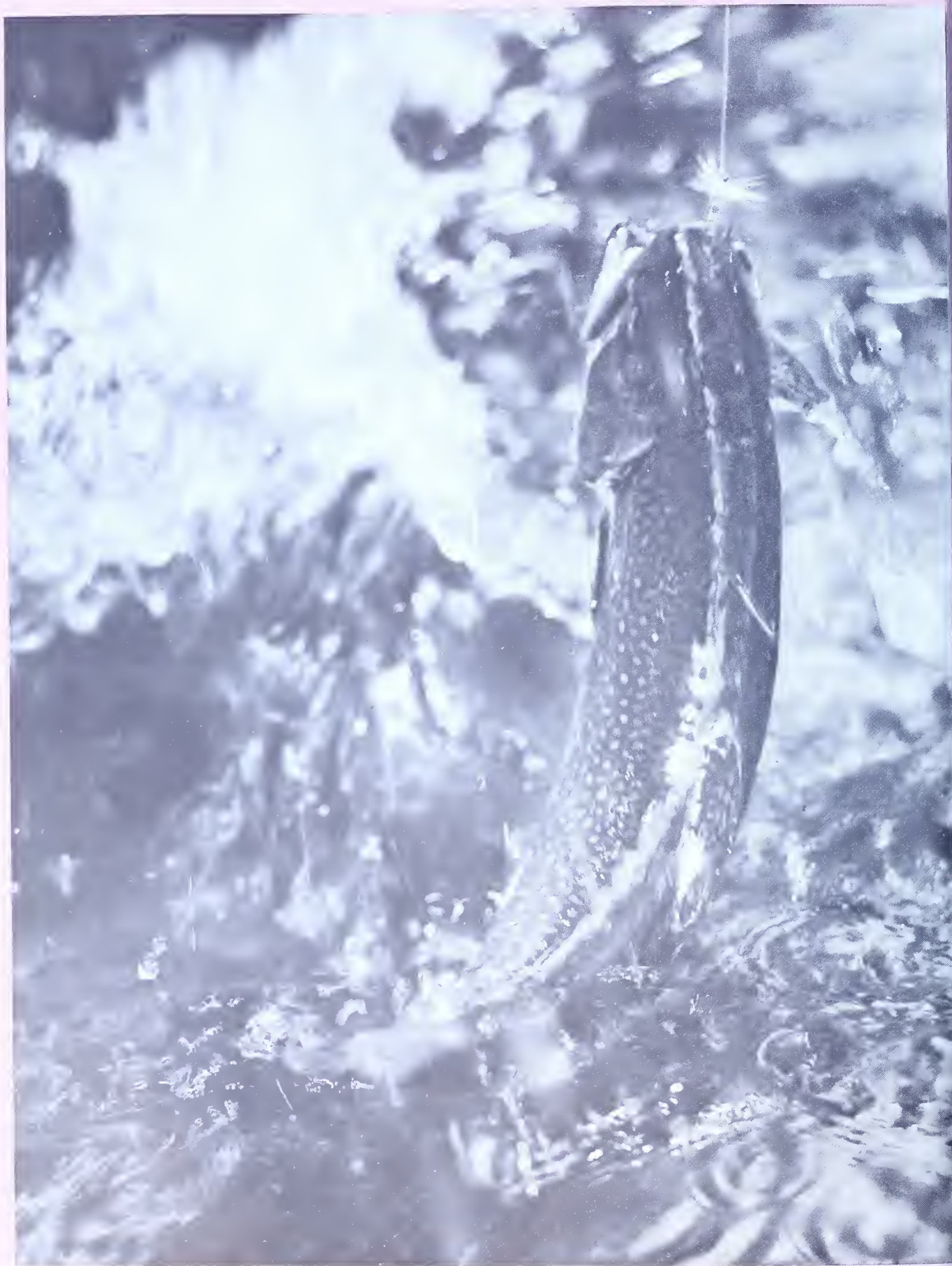
Cover Art by John F. Clark

POSTMASTER: All 3579 forms to be returned to Dunlap Printing Co., Inc., Cherry and Juniper Sts., Philadelphia, Pa. 19107.

The PENNSYLVANIA ANGLER is published monthly by the Pennsylvania Fish Commission South Office Building, Harrisburg, Pa. Subscription: One year—\$2.00; three years—\$5.00; 25 cent per single copy. Send check or money order payable to Pennsylvania Fish Commission. DO NOT SEND STAMPS. Individuals sending cash do so at their own risk. Change of address should reach us promptly. Furnish both old and new addresses. Second Class Postage paid at Harrisburg, Pa. and at additional mailing offices.

Neither Publisher nor Editor will assume responsibility for unsolicited manuscripts or illustrations while in their possession or in transit. Permission to reprint will be given provided we receive marked copies and credit is given material or illustrations. Communications pertaining to manuscripts material or illustrations should be addressed to the Pennsylvania Fish Commission, Harrisburg, Pa. NOTICE: Subscriptions received and processed the 10th of each month will begin with the second month following.







Opening Day Tips

By ED KOCH



WANT to be successful the first day of this trout season? Rather silly question, but each year I talk to hundreds of anglers who spend a fishless first day. This may seem odd to some in this day and age, nevertheless it is very true. The old adage that ten percent of the fishermen catch ninety percent of the fish is still running true to form.

For those ten per cent this article is not intended. Evidently over the years they have learned by asking, observing, reading or any of a dozen other ways the secrets of early season trout fishing. This story is written for the poor angler who helps make up the other ninety per cent. The angler who goes home "skunked" day after day. The angler who would really learn to love and enjoy the sport if he could become even half way successful. Let's face it, if we did as poorly at our jobs as some of us have done over the years on trout streams, we'd be out of work ninety per cent of the time! I am aware also

that there will be some who don't care to learn—so be it. For those who are interested here are some tips that should be helpful.

If water conditions are right, the weather good and "lady luck" just happens to be on your side you may stand a chance of increasing that ten per cent mentioned. Suppose though that the day is cold, as usual. Water is high and murky. Suppose that conditions just aren't right and the chances of having a good day are 50 per cent shot before you start. What then?

It matters not whether you are going to use a spinning, casting or fly rod. Most important is the bait you use and how you present it to the trout.

A few sure bets would be worms, salmon eggs, liver, minnows, spinners and various types of flies. I am aware that hundreds of readers will howl fervently after reading this and make the comment "what kind of a nut is he?" He didn't even mention cheese, corn, marshmallows or any of the other "killers" you can see being used on opening day. Well to set their minds at ease I will admit—no mention of the above—ON PURPOSE. To me this is not fishing, at least not as a sport. Sure they will catch fish—so will a baited field of corn bring in plenty of ducks for a hunter to kill—but this is outlawed, this is taking unfair advantage. So feel I about some of the methods I see for taking trout on opening day. If a man really loved and enjoyed the sport as it is meant to be he would take time to learn its every aspect. He would take pride in his ability to *catch* fish, not *kill* them. He wouldn't have to kill every fish he caught to prove to buddies, neighbors or friends he was a good fisherman. His own self-confidence would satisfy his ego and allow him to enjoy the sport. There would be no hectic, frantic, frustrating day trying to prove how good he is. Let's face it, no one is successful in any given field without many long, hard hours of learning and practice. The same applies to fishing. If you really love to fish—then learn to fish. You will enjoy it more, I know.

WORMS—The natural—unnatural—bait we'll call it for now. Did you ever find a worm in the stream during all the hours you've spent fishing? Thanks to mother nature they do get there. There are several good methods of baiting a worm. One method is to take the worm by either end and slide it over the point and well round the barb and curve of the hook allowing the remainder of the bait to swing freely in the current. Another method is to follow the same baiting procedure only starting in the middle of the worm, thread it past the bend and allow

both ends to dangle free. Another method is a worm gang using two hooks. This method is used so that no matter which end of the bait the trout picks up you stand a ninety percent chance of hooking him. A simple double hook worm gang is not hard to prepare. Take an 8 inch length of 6 or 8 lb. monofilament. Tie a single hook, size 10, to one end just as you would tie a fly to a leader. About four inches up tie in the other hook with a clinch knot. Tie a loop in the remaining monofilament and you're ready to go. This is tied directly to your leader. When rigging the worm gang take one end of the bait and thread it on the top hook in the manner mentioned above. The other end is threaded on the bottom hook. A sure-fire get-up if you fish it right.

For fishing salmon eggs use a number 14 hook. You can fish a single egg or a cluster of three or four very easily on a hook this size. Fishing the cluster is only wasting bait. If you get one egg in front of a trout he'll take it just as readily as if you drift four at a time by him.

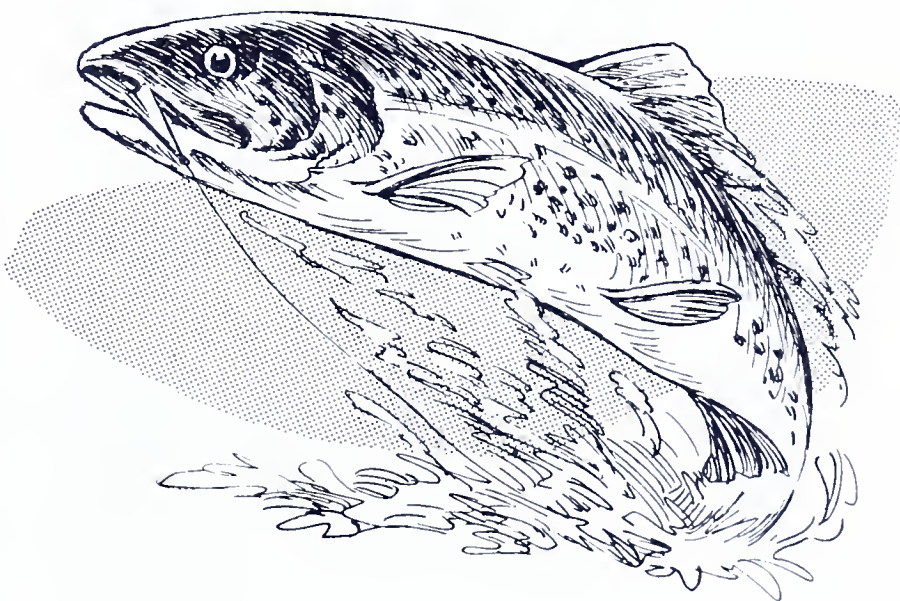
Minnows work well on opening day all over Pennsylvania. I feel it only fair, however, to add that if half of the minnow fishermen who were successful the first day went back two months later they wouldn't catch trout number one. First day trout haven't been educated. Haven't experimented enough in their feeding to detect the difference between a live and a dead minnow. With all the food of early season high water being rushed past them they frantically gorge themselves without being wary. For the trout that survive the first day the picture changes and "catching" gets tougher. A good minnow man is worth his weight in gold and a real master when it comes to taking trout. The man that consistently takes trout, I mean all season long, anytime he wants; the man that can make the trout react and respond by the way he manipulates and maneuvers his bait making it look alive, this man is the fisherman—he is the master of his method.

Liver is a good bait because in many hatcheries liver is fed as a supplement to the regular trout diet. Trout know what it is, know what it looks like, know what it smells like—I think—and know how it feels when mouthed. For these reasons liver will work. A quarter pound or less would be enough for a day's fishing. Cut it into quarter inch squares or cut it into strips one-quarter inch wide and 1 or 2 inches long. Method of baiting the hook is not too important.

Talking about learning as you go, I'd like to reminisce a little here if I may. Back in 1946 I was just a high school freshman. Every year we opened the trout season on Fishing Creek at Benton, just below the dam. Worms were the favorite bait—the only one we knew to use for first day fishing. This particular day it was cold, I mean really cold. By 8:30 a. m. the number of trout creeled by my Dad, my brother and I could be counted on one finger! Discouraging for a 13 or 14 year old boy.

I was standing below the bridge watching a fisherman who had taken three trout lickety split. Boy how I wished I'd had his secret. Watching him bait up again and cast his line upstream along the bridge abutment I was really tempted to wade out and ask him what he was using. His line hadn't drifted ten feet and wham—he hooked another

trout. I almost jumped out of my hip boots and into the water. He played the fish for a few minutes, brought it in, unhooked it and placed trout number eight in his creel. I was like a kid with Mexican jumping beans in his pants. He waded ashore and I boldly walked over to him and blurted out, "What are you using for bait?" I was afraid he'd figure I was some wise young kid without any upbringing and walk on without answering. He stopped, opened his weather beaten old creel and produced a mustard jar half full of something that looked to me like the insides of a cow all brown and bloody. "Liver" he replied. I was amazed, we ate liver at home, but trout—this was too much. He showed me his limit of trout all nicely wetted down in pine boughs. There had to be something to his bait. He appeared glad I had questioned him concerning his ability as a successful angler. Pulling a battered old pipe from his inside shirt pocket he filled and lit it, puffing for what seemed to me like an eternity before he began to talk. He told me why he used liver instead of worms for these early season hatchery trout. Explained how to fish it and how I could tell when a trout smacked it. When finished he handed me the jar of liver and told me to give it a try. "Good luck," he said as he walked up the path toward the bridge. Talk about excited. I started to run along the edge of the stream toward the bridge. I stumbled and fell, almost breaking my rod. Under the bridge and up to my Dad and brother I went. Half puffing, half talking, half gesturing I tried excitedly to tell them the story of the man with his limit and his liver! Dad gave me half a dollar and I handed him and my brother the jar of liver. Up over the bank I shot, ran across the bridge to a small grocery store and proudly purchased fifty cents worth of liver. Back across the bridge, down the bank and into the same spot my benefactor had just vacated as fast as I could go in hip boots three sizes too big. Cutting off a small chunk of the liver I baited my hook and cast upstream letting the current wash the bait downstream as naturally as possible. THUUMMP—about six feet below me I felt the jolt of the line stopping. Raised the rod and sure enough I was onto trout number one. I hate to end the story here,





however, there are more important things to be told. We did, all three, catch our limit that day by mid-afternoon. Spirits were high as we drove the thirty or forty miles to Ashland and home.

I tell this story to impart a lesson. Watch, ask, read and try every different method you can come up with. This is one sure way to success as a trout fisherman. Over the years I cannot remember one angler who hasn't taken the time to talk and tell of his knowledge of trout whenever I've asked. Perhaps I have been fortunate but I rather think not. I believe every angler is a kindred spirit willing to teach and advance anyone who would inquire of him. Try it—you'll find I'm right!

What flies to use the first day may vary for different sections of the state. Try sticking with a few tried and proven wet flies, nymphs or streamer patterns and you should be able to take trout. The most productive wet fly patterns would be the lead wing coachman, hare's ear and alder in sizes 8, 10 or 12. The muskrat nymph, stone fly nymph, caddis worm and Strawman's nymph would be four excellent patterns in size, 8, 10 or 12. Streamers would include the Mickey Finn, Black Nose Dace, white marabou and black marabou.

Fish the worm, salmon egg, liver or minnow deep the first day. This means getting down to the bottom and keeping your bait there. A leader of four or six pound test will do the job. Split shot or twist on lead will be necessary. Depending on the depth and speed of the water you fish it may require anywhere from two to six split shot or two or three pieces of twist on lead. The weight should be about 8 or 10 inches in front of your bait. If the weight is rolling along the bottom as it should, this will mean your bait will be floating freely just a few inches off the bottom in the path of ninety per cent of the trout. Fish up and across stream allowing the current to take your bait to the bottom, swing it in a half circle and straighten out somewhere below you. The majority of strikes will come as the bait is swinging out of the arc—don't ask me why but this is the way it happens. It is not necessary to fish a long line, twenty to thirty feet should be maximum.

It's difficult to tell where the trout will be laying or feeding the first day with all the stomping and commotion going on, so cover the water thoroughly. Sometimes the most unlikely looking spots produce some good trout. Remember keep your bait down where the trout will be.

The nymph is fished identically to the worm. Use enough weight to get the nymph to the bottom, about 8 or 10 inches ahead of the fly. Cast up and across stream and let the current carry the nymph along as naturally as possible. Oftentimes the trout will hit or rap the nymph just like they do a worm. If trout are not active down deep after the first hour or so, gradually remove small

amounts of weight allowing the fly to float somewhere between the middle and bottom of the stream. Once you have located the depth the trout are actively feeding at, stick with it.

The wet fly can be fished with a little weight but generally very little or none is used. These flies are to represent the nymph as it struggles from the bottom trying to emerge into an adult fly. Trout normally smack the wet fly hardest just in the surface film. This means an inch or two beneath the surface. Wet flies are cast up and across stream allowing the current to carry them freely along just as the natural nymph would be. One, two or three wet flies may be fished at a time.

Streamer fishing may vary from top to bottom depending on the activity of the trout. Start off your streamer fishing without weight. If you do not connect in short order gradually add small amounts of twist on lead, carrying your fly deeper each time until you locate the trout. The streamer is fished across stream. The current will pull the line into a curve or belly that will pull the streamer across current toward you. Rhythmically raise and lower your rod tip about six inches every few seconds, giving a swimming or darting action to your fly. This is a must for streamer fishing otherwise your fly will look like a dead minnow floating along and Mr. Trout will ignore it.

No matter what the water conditions, if you just remember to fish from top to bottom and explore every foot of water with your fly or bait you can't help but come up with trout. Fish upstream. When your lure or bait has come to the end of the drift on a cast pick it out of the water and cast again. Nothing looks sillier than to see some fisherman standing waist deep in water, his line facing downstream and about twenty feet below him his worm or lure dancing, bobbing or twisting on top of the water like the propeller of a motor boat. He just can't imagine why he hasn't caught a thing all morning!

Watch the other fishermen along the stream. When you see someone catch a trout take a few minutes, even a half hour if you must, and observe. Watch his method of casting. See if he is fishing upstream or down. Try to see if he is giving any action to his bait. If he catches several more fish make a mental note of where the strike occurred, at the beginning of the cast, part way through the drift or as the bait was below him in the current. Try his method yourself and I'll bet you'll come up with a trout on the end of your line. If he takes a break and comes ashore don't be afraid to strike up conversation. Most fishermen enjoy knowing that someone noticed they were successful.

The first mark of a real fisherman whether he's catching trout or not is streamside manners. Don't go stomping up or downstream like a bull elephant at a water hole. If someone is fishing above or below you wade around him and give him plenty of room. A courteous fisherman is even more respected than a successful one.

Shortly now another opening day will be upon us. I hope that this will be the start or, perhaps I should say the first, of many successful first days to come for all ANGLER readers.

Trout Fishing In God's Country



By **MICHAEL H. SKURECKI**

THE teacher's voice droned in the distance as I impatiently tapped a pencil against the crystal of my watch and counted the passing minutes. Time wasn't moving fast enough to satisfy me and the evening class I was attending on this night of April was becoming very boring. I couldn't pay much attention to this particular session because my thoughts were focused on a subject far removed from "Personal Psychology" and all I could think about was the trout fishing trip which would begin at the close of class. An eternity later the hands of the clock reached 10 and I was dismissed for the evening.

A twenty-minute drive through Philadelphia traffic found me at a prearranged meeting place in suburban Roxborough, a diner called Koller's Kitchen. Two friends, John O'Donnell, an accountant and Andy Sarnowski, a machinist, had already arrived; and we were ready to begin our annual journey to "God's Country."

We loaded our gear into John's car and drove west along Route 422 until we reached the Pennsylvania Turnpike at Norristown. Traveling north on the Turnpike Extension, we reached the last exit which is Scranton and transferred to Route 6. We continued west on Route 6 for four hours until we reached the town of Galeton. Here we turned south onto Route 144 and proceeded for 24 miles to Ole Bull State Park, our destination.

It was 5:30 a. m. when we arrived. The morning was chilly and a thick April mist stuck to everything. The smell of pine was in the air but the dark overcast sky

made the beautiful setting dreary. After hastily unpacking our fishing equipment, we made our way through a stand of pines to the famous Kettle Creek, which was our first fishing site. This stream flows parallel to Route 144 and forms a large pool at the park behind a dam. Part of the dam had fallen into disrepair and broken rock was everywhere. We decided to fish three separate spots, each of us thinking he would be the one to pick out the most productive spot of the stream. I elected the head of the pool, just above the dam. Walking past the dam I noticed the water was the highest I had ever seen it, moving fast and forcefully through the break. I immediately started to wade the stream as soon as I reached the pool. I could wade only six feet out from shore and the cold current rushed by my boots making it difficult to stand on the slippery, moss covered rocks.

I was using a spinning rod with a Garcia #300 reel, salmon eggs as bait, and a No. 12 gold hook with three split shots as weights to keep the bait close to the bottom. After only three casts, I hooked into a 9-inch brownie that broke loose before I could net him. One hour later I had only five trout to my credit, all of which I released. Electing to try another spot for a change of luck in trout size, I picked a place below the dam where the back water formed a still pocket. Working this section brought me no luck. By this time it was late morning and my stomach growled from lack of food. The boys had already given up fishing and were preparing breakfast at

one of the park's fireplaces. As I made my way out of the stream the aroma of frying chip steak was in the air, so I made straight for the source.

During breakfast our discussion centered around what stream we should fish next. Three years previous, another friend, William Young, had taken a 25 in., 5 pound rainbow out of the Kettle and only last year we caught fish measuring 12 to 15 inches. This morning, however, we had only one fish large enough as far as we were concerned to keep, and that was a 13-inch rainbow that John caught. We decided to abandon the Kettle and try our luck at a nearby stream called Cross Forks.

The Cross Forks Creek joins Kettle Creek at the town of Cross Forks, approximately three miles below Ole Bull. Part of the creek, from its junction with the Kettle upstream for three miles to a marker, is reserved for fly fishing. Above the marked area, the choice of bait is left up to the individual fisherman. John and Andy decided to bait fish, but since I had just purchased a new Garcia 7 ft., 10 in. fly rod and taper line, I wanted to try fishing the fly area.

To reach the stream, we drove south on Route 144 to the town of Cross Forks and took the first road to the right just before entering the town. We crossed a bridge over the creek and continued on a dirt road which parallels the stream. I decided to start fishing about one mile above the bridge where a little tributary crosses the road and empties into the Cross Forks. I told the two bait fishermen that I would work the stream down to the bridge and meet them there later.

I emptied my fishing vest of hooks, lures, and salmon eggs and placed them in the back of the car, since there is a fine for having these items in your possession while fishing a fly-fishing-only stream. The car pulled away leaving a cloud of red, dry dust which engulfed me immediately. I brushed off my clothes and started to walk down to the main creek. I waded through the smaller

stream, splashing water higher than my 6'5" frame and acted like a typical amateur. My eyes scanned the stream to see if there were any other fishermen in sight, and I wondered when this section of the stream had been fished last. I didn't really care whether I caught anything or not as long as I could say I had tried the art of fly fishing.

The Cross Forks wasn't as high as the Kettle and wasn't moving as fast. I decided to start fishing with a streamer called the "Muddler Minnow." There was no particular reason why I chose the streamer first, but I had to start with something. I secured the streamer to a 9 ft. double tapered leader and proceeded to cast across stream. I tried retrieving the "Muddler" with short jerks to simulate the movement of a wounded minnow, but it seemed as though the streamer didn't want to sink. This was annoying, and after a few more casts, I decided to put some weight on the line. I reached into my pocket for some split shot, but discovered I had left them in the car with the hooks and salmon eggs. I thought of tying on a small pebble for weight, but rather than go through all the trouble, I chose to switch to one of my flies instead.

I remembered reading that a two-fly combination was often used (i.e., one fly set apart from the other at a distance of about 36 inches) rather than just using one fly by itself. For the top fly, I chose the "Royal Coachman" and at the bottom, I tied a "Gray Nymph." I placed my casts along the opposite shore in any likely spot that might contain a trout, but met with no success. Suddenly, on a cast which landed the flies in the middle of the stream and where I thought no fish had any business being, the line straightened out after drifting only two feet. My first thought was a snag, but after a quick jerk, I had hooked my first trout on a fly.

In my excitement I quickly pulled the fish to my net without giving him a chance to fight. He was a 9-inch brookie and he had taken the Gray Nymph. I gently



lifted the trout out of the net, removed the fly from his jam, and placed him back in the water. As he darted away, I felt a wave of accomplishment sweep through my body in the form of a chill. Even though the fish was small, I had taken him with a fly, something I had never done before.

After another half hour of whipping the air, I decided to take a breather. I sat down on the bank of the stream and lit my pipe. As I sat there looking at the water, my stare was broken by insects lifting themselves from the water. The sky had brightened and, for the first time that morning, I noticed the sun was trying to break through the defense of clouds.

Bugs were coming off the water at a steady rate, and the first thought that came to mind was, that the sun had caused a hatch of flies. I took off my hat and scooped the air to catch one of the flying insects. I recalled someone saying, "that if a hatch occurs while you are fishing, try to catch one of the flies and closely match it with one of your own."

I finally captured one of the bugs and placed it in my plastic license holder for a better look. The insect was white, had a short body with wings and a tail bent like a scorpion's ready to strike. The closest imitation I had was a white fly with a similar tail, no wings and short hackle protruding from the front of its body. I removed the Gray Nymph from the leader and in its place tied the fly, leaving the "Coachman" where it was.

I made a quick cast across the stream to a spot where a large number of flies were gathering. After a drift of about 6 feet the line started to drag the flies to the surface. There was no action at first, but as I started to gather slack, the line suddenly straightened, the rod recoiled and I was fast to another trout. The trout raced up and down the stream in his determination for freedom. He made two beautiful jumps, which only further drained his body of energy. As he made his way towards me, I tightened the line and slid his quivering form into my net. It was a 13½-inch brownie that had taken the white imitation, and with no hesitation I placed him in my creel.

The stream was entirely covered with bugs by this time and fish were jumping everywhere. This could happen only to a beginner. Before I reached the bridge, I caught twenty trout: 12 brownies, 6 rainbows and 2 brookies. Of the twenty, I kept only four—a 12 and 13½ in. brownie and an 11 in. rainbow and 10 in. brookie. Since I am a beginner and caught twenty fish, I wondered how a professional would have done under these circumstances.

I was about 20 yards from the bridge when the rumbling sound of a car grinding to a halt broke the silence. It was the boys returning from fishing upstream. Trying to prove my ability as a fly fisherman to them, I started to whip the air and made a beautiful cast into an overhanging pine tree. "Hey Mike," John hollered, "I know where you can get a ladder to get back that moth-eaten pillow feather that's on the end of your line." He was laughing so hard that he had to hold on to one of the bridge supports to keep himself up.

I reserved any comments as I retrieved the fly and my composure. Making my way up the bank and onto the bridge, I walked over to my two hilarious friends. "Did you have any luck with those snakes you were using for bait?" I asked referring to the night crawlers they were drowning on the upper stretches of the stream. Andy replied that they had some fun with the eight brookies they caught, but there wasn't a keeper among them. Then came the question I had been waiting for. "How did you do?" they asked simultaneously. Their eyes almost popped out of their heads when I opened my creel and showed them the four beauties lying there. They shot questions at me: "Where?", "How?", "What kind of fly?" All of which I answered with a smile.

After the excitement subsided we decided it would be better to make arrangements for the night rather than to continue fishing. We had previously selected the inn only a stone's throw from Pennsylvania's famous limestone stream, Pine Creek. This was our lodging and base of operations for the rest of the trip. The inn's proprietor was a considerate and generous man who treated us as if we were part of his family. Our lodgings were neat, clean and comfortable and the food was everything a hungry fisherman could want.

We fished many of the streams near the inn including the famous Lyman Run Lake, located 6 miles southwest of Galeton on the first forest road to the right. We also fished such streams as Pine Creek, the stretch between Gaines and Galeton; Long Run, a stream which flows behind the inn and empties into Pine Creek; Elk Run, a tributary of Pine Creek located at Watrus; and Lyman Run Lake and Stream. On the second and third days of our trip, we caught a total of 47 trout of which we kept 15 nice sized ones, including a beautiful 18 in. rainbow.

The next morning we still fished the Lyman Run Lake with our spinning outfits and caught all of our trout there on salmon eggs and worms. Andy caught the largest trout of the trip, the 18 incher mentioned before, using salmon eggs. I tried fishing the lake with flies but after what seemed like a thousand casts, and seeing the fish that were brought in by my friends, it didn't take long for me to change to bait for the occasion.

Our trip came to an end on Sunday morning, three days after it began. The last morning at "God's Country" we decided to fish the stream which flows from Lyman Run Lake. I caught four medium size fish on the same white fly I had used at the Cross Forks; John picked up five trout but Andy came away with his limit of eight. As I waded out of the cold stream, I couldn't help thinking how quickly time passes when you are doing something you enjoy, and how the memories of this trip will be indelibly logged in my memory. After a half hour struggle packing our gear into the trunk of the car, we started home.

As we drove along Route 6, the thought occurred to me: why don't people take advantage of such a beautiful spot as Potter County? Why must they travel thousands of miles seeking foreign streams to fish when some of the best natural trout streams in the world are in the beautiful setting of "God's Country"?

FISHERMAN'S

FAIRWAY

. . . A step-by-step, cast-by-cast approach to some basic angling situations on a trout stream.

Take a typical medium sized trout stream. Divide it into distinct fairways, much the same as the golf course. Pick it apart, study it and then fish it. Then detail the strategy over the basic seasonal changes. The variance of water heights and temperatures vary and so affect the places where trout lie and feed.

This kind of armchair fishing can pay dividends. It will certainly show us where to wade and where to fish. not vice versa. It will also show us how to cast and present our lures in the most productive way.

In this series of (twelve) diagrams, the author takes us through the water with explanations of the conditions to look for.



By RAY OVINGTON

THE MID STREAM ROCK

This is probably one of the most common situations found on a trout stream, yet one which is "goofed" more often than not. The mid-stream rock can be approached in many ways. It harbors trout in many positions throughout the season depending upon the seasonal and water conditions. Because of its deadwaters it collects refuse from the stream currents and thus creates the conditions for insect growth. It protects small minnows and, of course, offers a prime set of spots for big trout to hide and wait for food that comes drifting by.

Note the current direction and effects caused by the rock upon the water flow to form the currents. Trout do not intentionally lie or rest in the fast current any more than people like to stand in a gale of wind. The rock serves as a break in the current and there begins a situation where the trout and his food congregate around it. In the early spring, when the water is cold, high and fast, the trout lie down deep right on the bottom in front of the rock in the current vacuum, or better, lie next to the wash of the rock between the deep water and the shallow section immediately behind the rock where the sand has built up. Later in the season when the trout go looking for the more aerated water, they rest right under the bubbles and so are quite invisible to the angler. Incidentally, you will find caddis fly larvae and other insects in this section that supply a steady source of food for the trout. Several of the mayfly nymphs and especially the stone flies crawl out onto the small stones and even upon the big rock to shed their nymphal shucks and at these times the area is alive with action. If the center of the wash is deep enough in high water, the trout will be found

there on dull days or will be found feeding there later in the year during the early morning or evening hours. As the season progresses and the water height and stream pressure drops, they will congregate along the edges of the drop-offs beside the deeper current behind the rock. They'll also take up positions in front, since there is quite a stretch of "dead" water created by the size of the rock itself. In mid-season, when there is a hatch of insects, they will be in a position to grab at the flies as they drift down from above where the current splits into two basic drift lanes. The fish in front of the rock will rise quickly to catch a rising nymph or a drifting fly before it passes on down either side of the rock. They will have ample opportunity to see it coming toward them. The fish lying in the wash can take up comfortable positions along the fced lane either in the shallow or along the edge of the deep. Your job then, is to present a lure to them—naturally—since they will not be as quick to spot and so, go for, the lure.

In order to approach this situation properly without scaring the trout down for the day, or presenting the lures improperly, start from position (1) for the spincaster and from (12) for the fly fisherman. Neither should attempt to work the entire hot spot from these positions. Too much casting and an ineffective presentation will tend to scare the fish.

The spincaster shoots his lure to the point where the current parts for a few feet above the rock, but on the left side only, so as not to disturb the water on the other side which is reserved for later on. As he lets the lure sink, he retrieves it slowly so it will be carried downstream,

but still maintains its action by rod tip manipulation and tension, along the rock so it skirts the edge of the upper section of the wash area. He then brings it across the deep to retrieve. He does not drag it back through the hot area. Bringing it in below this point will also tend to spoil the nearby water. His next cast goes further in the direction of (14) and as it swings down, he pulls it across the front of the rock, let's it pause to go below the rock on its left side as before.

The fly fisherman, working downstream with nymphs and wet flies starts at (12), a point where he can effectively dead-drift his flies almost without casting them directly downstream to the current split, down to the rock and then guide the flies with a modified mend of the line around either side of the rock but leaving the wash area alone for the moment, since it is hard to handle such a long line properly. If it is not too long a cast, he can shoot his line to a position upcurrent from (14) and as the line drifts down, throw an upstream bow in the line so that the flies will drift straight down to the right side of the rock. He can then lift them out before he has to scrape the rock with the hooks. The same situation can be accomplished on the right side of the rock when the fisherman works from that side of the stream.

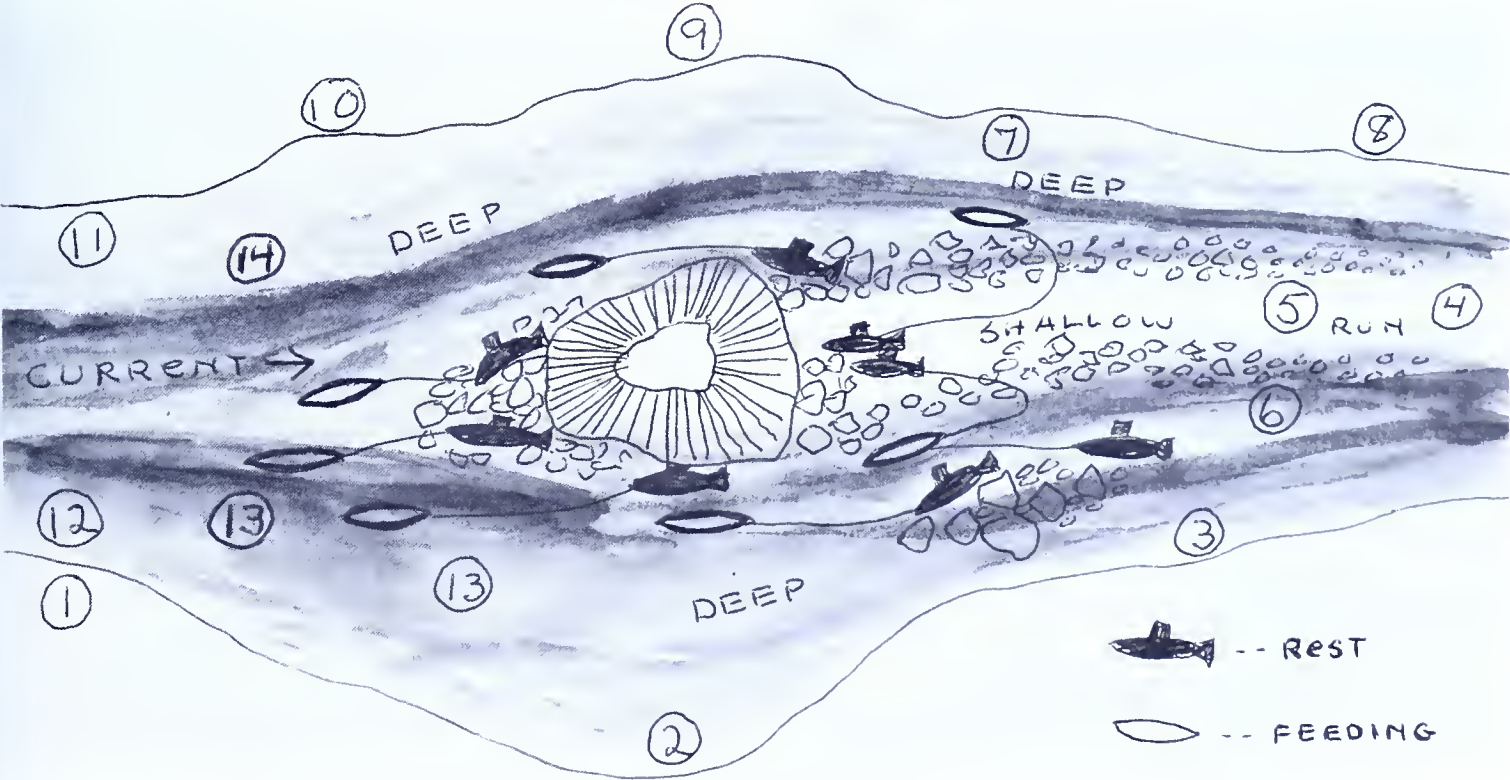
From the position of (2), the spincaster can again work the front of the rock, letting his lure drift along the left side and make several casts along the left bank of the center shallow, but leaving the other side of it for later fishing so as not to disturb the "new" water.

For the fly fisherman's next move, let's assume that the water between (12) and (6) is too deep to wade, too far to reach properly without undue line pull from the current. He goes ashore above (2) and reenters at (6), casting his wet flies up to the point above the rock and then lets them drift along its left side and back down to

him along the edge of the wash. This is an excellent way to fish the rock with a dry fly even when no hatch is in progress during the middle of the day in mid-season when wash-ins are sometimes present. A spider fly can be used effectively if there is a slight breeze on the water. A fan-wing fly is also quite effective. It is also a good position in the evening of mid-season when the fly hatches are coming up on either side directly in the vicinity or well above, for the insects, especially mayflies, drift in the main current with half of them passing the left side of the rock. While at (6) he can make several casts from the left side of the rock to (7). He then moves to (5) in order to fish the right side of the rock and its long wash. If he is approaching from below, the conventional way to fish this situation with dry flies, the position of (4) will allow short casts at first to both sides of the wash for a natural drift to swing left and rightline curves so that the leader and line hits the water away from where it will drift so as not to scare the fish. Longer casts can be made working up to both sides of the rock.

The spincaster, meanwhile, has moved to (3) and can try again with a lure placed at the peak in front of the rock to let it come down the left side and through the upper part of the wash. He'll have to retrieve fast to keep the lure from snagging the bottom and this calls for ultra-light lures.

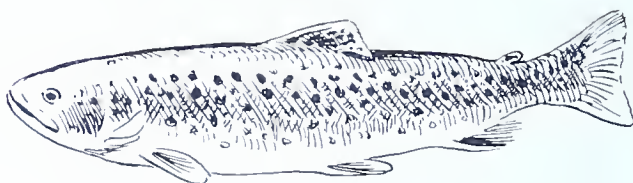
For both spincaster and fly fisherman, working the right side of the stream would be similar to that described for the left side. The main point here is that specific areas have been covered from the proper angles, bearing in mind the presentation angles and the need to control the line movement and the lure to make the fraud appear lifelike and guard against scaring the fish. It is better than merely throwing or casting every which way without a plan.



THE OL' ONE-TWO!

An opening day Rx for finicky stream-bred browns: hit 'em low and then high with facsimiles of their favorite early season fare, and don't be diverted by the transitory success of flies that wouldn't work!

By S. R. SLAYMAKER, II

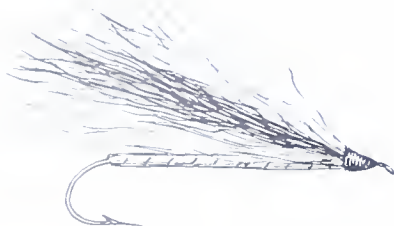


THE PAGES of my fishing diary rustle sibilantly in a late summer breeze. Its scent suggests the leafy mustiness of an early fall. Sound and smell are as bittersweet as the blue ink diary entries, for they seem older than five months. Small wonder, as it's Labor Day, and the '65 trout season is with the ages.

I leaf back to "Saturday, April 17," and peruse the following lines:

A windy, cold 37° in early morning. Later, sunshine made it pleasant. Ol' one-two really worked today. Fifteen legal size trout. Kept four. Eight on Quill Gordon nymph. Rest on Quill Gordon dry. Some time I must write on this day. It had its unusual moments . . .

Now is the proper time. For recollection means reliving April 17, thus prolonging the '65 season—here in my study. An ersatz sort of experience, this. But it just might be of benefit to brothers of the angle, inasmuch as this particular entry bears a striking resemblance to those of other opening days. A successful prescription for "first day" fly fishing appears to be evolving. I call it the "ol' one-two" method. It requires two prerequisites: the presence of stream-bred or hold-over brown trout, together with their succulent early season fare, the Iron Fraudator May fly, alias Quill Gordon. Both are in the small, north-eastern Pennsylvania freestone stream where I traditionally open my fishing year.



The stream's wider, lower reaches are stocked. Here the ol' one-two approach can't be termed indispensable. For while planted brownies can sometimes be choosy and sporting in the extreme, patterns bearing no resemblance to extant natural fly life will often take them. (The same applies to stocked brooks and rainbows, even to wild ones; particularly brookies.) But two to three miles upstream, wild brown trout—the most discriminating of them all—require a pretty good facsimile of what they're feeding on. I begin here, where the stream gushes down recurrent bungalow-size rock formations and glides, cool and crystalline, over stretches of yellow-ochre tinted gravel.

When I started at 7:30 a.m. no surface fly life was visible. But the Quill Gordon is usually the first May fly of the season to emerge. So, I guessed that in rocky crevices under brightening water tiny Quill Gordon nymphs were moving. Soon they might wash loose and tumble across the golden gravel. Plainly, a number 14 nymph imitation was in order.

My first cast was at Step-Ladder Falls, my private name for the little rhododendron-hemmed glen where the falling stream courses through two level stretches roughly as wide as a double lane bowling alley. I worked upstream into the tail of the lowest stretch, allowing the nymph to sink and then drift slowly back to me. After the third cast I tensed as an olive-gold flash shone in the shallows.

Obviously, the presentation was faulty. For trout don't make nervous passes at sluggish nymphs that can't get away. Lest I shake up any more fish in that limpid, crystal-like flat, I cast to rougher water at the base of the little falls. Here the 5x leader tippet would stand less chance of being seen.

The next strike came deep in the fall's foam. A gentle twitch signalled a typical nymph "take." I set the hook,

and a fat brownie arched out into the white, lace-like backdrop of falling water. He dove and dug deep and jumped again.

The fish went only ten inches, the diary says. Seemed like a lot more, thanks to my one-and-a-half ounce, five foot fly rod. Still, since he was chunky and stream bred and my first trout of the season, he's deserving of long recollection.

Action was lacking at the next level. So I clambered around the falls and eagerly faced a familiar tableau of sun-flecked riffles meandering among thick stands of hemlock and clumps of rhododendron. Action increased with a rising sun. Strikes were harder and nearer the surface. Obviously, the fly hatch was beginning! The diary continues:

At the Fallen-Tree pool I spotted my first emerged May fly of the season, a dainty Quill Gordon. A small trout grabbed it under the tree trunk where Don Dubois snagged the big one last June.

Author-angler Dr. Donald Dubois had purposely risked a foul-up by casting across the over-hanging trunk, intending to pick up his line when it began to belly against it. He never had to. A large brown smashed the floating fly and somersaulted in a burst of spray. Even though he threw the hook, this fish provided us with what Don aptly called the brightest flower of our trip.

Maybe, I mused, that fish still keeps his lie in the dusky shadows of that weathered tree. The diary goes on:

Since I had obstacle fishing I guess pure whimsy dictated my first dry fly cast of the season. The line arched over the trunk, delivering my Quill Gordon to the riffled mouth of the pool. As it bounced in its drift I remembered the preceding New Year's Eve when I tied it and felt a tinge of pride. It was a pretty fair imitation of naturals, now beginning to surface. As the line began to back up on the tree trunk a nice brown leisurely sucked in the fly. When I set the hook, he went up; high up, three times. And then he beat the little pool to a lather. This one went 13½ inches, was well girthed and very bright. Not as big as Don's. Didn't take as spectacularly either. But action was superb.



By now I had caught a total of eleven legal size trout and killed two; one of eleven inches and that larger fish taken at the Fallen-Tree pool. There, while relaxing over a sandwich lunch, I ruminated about how the ol' one-two approach got its name.

A woodsman friend, Johnny Styk, was responsible. I can see him now, standing by that same pool a dozen years ago (before the tree had fallen) and admiring some trout I had just taken on a Quill Gordon nymph. I was busily removing it and tying on the dry fly equivalent, as the rise was beginning.

"That's the way to nail 'em," Johnny had said excitedly. "In the cold, early morning hit 'em low with a nymph. When it warms up enough for flies to pop, smack 'em high with dries—just like the ol' one-two punch!"

I continued this routine on successive opening days with confidence that the Quill Gordon nymph would be active—that it was about *due* to hatch. Even on days when it didn't, I took some trout on the dry Quill Gordon. For if a trout gets a hankering to rise, chances are that he will be more susceptible to a shade and size that best conforms to the nymph which he sees under water.

Since I had experimented with other nymph-dry combinations on opening days, my faith in the theory (as it applied to the Quill Gordon) remained unwavering over the years. For nothing produced as well. Then something happened. I'll let the diary explain:

By 2:30 p.m. I'd netted four more nice fish. Then ran into John Miller, who was elated. He landed sixteen trout (kept two big ones) on dry flies between 7 a.m. and noon! And on a Black Gnat yet! I kidded John about working hard to coax fish up during those cold, early hours when they shouldn't have been rising. He laughed and said they came easy. I was happy for him, but was also, shall I say, disturbed.

But not any more, now that I've had time to rationalize. Maybe the trout were so abnormally hungry after their long winter sleep that they rose when they weren't supposed to! And when they rose, John's dry Black Gnat was size-wise like my dry Quill Gordon: both were #14's. Not to mention that both were dark flies. Their silhouettes were about the same. And, of course, John Miller is a really fine dry fly angler . . .

Outside darkness settles. The breeze is gone and my diary pages lie still. Downstairs someone on TV recites the dread Labor Day highway toll. My youngest daughter is trying on a new dress for kindergarten. All of which makes the passing trout season seem far away and winter very near. As it comes on, I'll rationalize more about my good friend's dry Black Gnat; so much, perhaps, that there will be more good reasons than I can muster now for tying on a Quill nymph in the dim, chill of an April morning in '66, hard by Step-Ladder Falls.

Pennsylvania Fish Commission



THE OLD FORERUNNER of the modern hatchery truck loading fish at Pleasant Gap hatchery. Everything, including fish, moved slow in those bygone days.

Centennial

1866-1966

FAST GLASS PANEL truck covers thousands of miles on every type road and highway. Fishermen get a good glimpse of fish to be stocked.





with it are really missing something. "Ultra-light," of course is a relative term. It could mean light spinning gear using two pound test line, or less, on Pennsylvania trout streams, as many have done. It could mean catching Atlantic salmon with a two-ounce fly rod, as Lee Wulff so often has done. It could mean catching a sailfish on slightly stronger spinning tackle with six pound test line, as the author and others have done. You can take it from there.

The theory back of ultra-light is that fishing is much more fun and much sportier when the angler uses tackle light enough to give the fish at least an even chance of retaining his freedom. The fact back of it is that it really is much more fun, and that it works. It calls for carefully adjusted tackle and for a very light touch. The tiny spinner, wobbler, plug or bait may weigh one-eighth ounce or less, and may be on a line so fine it looks like a cob-web. The fish usually aren't savvy to this sort of thing,

Double Your Fishing Fun

By JOSEPH D. BATES, JR.

Author of "Streamer Fly Tying & Fishing," "Spinning For Fresh Water Game Fish," and other angling books

THE FRENCH have a name for it. They call it "Ultra-Léger," or extremely light casting. They became so fond of the sport that they formed sort of a "Ten To One Club." To belong, you had to catch a ten pound game fish with a spinning line or fly leader testing only one pound, or less—or an eighty pound fish with eight pound test, and so on. This is getting a bit extreme, and is a practice sometimes frowned on by dedicated anglers who think it results in too many fish roaming around with hooks attached to broken lines stuck in their faces. Others, perhaps less adventurous, consider it strictly for the birds anyway. But the fact remains that a surprisingly large number and variety of fish are being caught on ultra-light tackle, and that anglers are having a field day doing it.

These extremists think that one needs to put almost no pressure on a hooked fish—taken for granted, of course, that he's in open water with no snags and little or no current to favor him. The prick of the hook and the slight tension on the line will cause him to jump himself to exhaustion, or to do so much racing around that he'll become netable anyway. This actually works to a very surprising extent, and those of us who are fish-horsers with heavy tackle might double their fun by considering it.

Of course there are "nuts," show-offs and strivers for perfection in every sport, but this ultra-light stuff has a lot to recommend it if it is approached sensibly—and by "sensibly" I don't mean the "Ten To One Club."

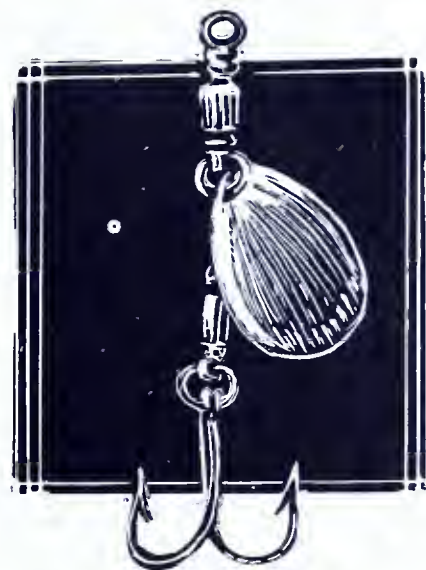
The fact remains that fishing with ultra-light tackle is so much fun, and so resultful, that anglers who don't get

and so they strike more often. When they strike, the angler has his hands full, and has an unusually exciting time of it. If the fish is brought to net he is a treasured trophy to reward the angler's skill. If he gets away he rightfully has won his freedom, and the angler should stop and consider what he did wrong so it won't happen next time.

For spinning with ultra-light tackle you'll need the lightest and most responsive rod available for the purpose. The reel is more important than the rod. It must be correspondingly small and must have an extremely smooth brake with a wide latitude of adjustment. For lines of two pound test, or less, very few such reels are available. One is the famous "Alcedo Micron." Another is the little "Mignon." Evidently The Orvis Company, of Manchester, Vermont, is coming out with a suitable one this spring. For bigger fish where lines of from four to eight pounds test might be considered ultra-light, the

selection is much larger. Orvis has small reels ideal for handling such lines. Wright & McGill makes a very good one named the "Eagle Claw." There are many others but, in selecting them, remember that smoothness and latitude of brake adjustment is all-important. The alternative is snapped lines and lost fish. Spinning reels for ultra-light fishing must be of the open-spool type. For several reasons, the closed-face spin-casting types are out.

In choosing spinning lines for ultra-light tackle, avoid the "bargains." One little weak spot means you're out of luck! Favor the more expensive standard brands either of American or of foreign manufacture. One I've learned to regard highly is "Maxima" monofilament in the "Chamelion" red-brown color. This takes on the color of its surroundings, and is the nearest to being invisible of any spinning line I know. It also seems more supple and less inclined to kink. It is not available finer than two pound test, but that's fine enough for most people. Wind



With Ultra-light Tackle!

the line on the reel spool smoothly and tightly, and keep it tight at all times. Test it before each use, and avoid making it lose strength by rubbing on rocks, logs and weeds.

There are tricks in handling tackle for this ultra-light fishing. Learn the strongest knots, and test them carefully. Adjust the reel brake to very light tension. You can add to the braking power, if need be, by pressing the forefinger of the rod hand against the outer lip of the rotating reel spool. In fact, you can snub the line if forefinger pressure is too great—so don't overdo it! If the rod is a short one, you can add to its length by holding up the rod hand to extend the length of the rod, thus also, keeping as much line out of the water as possible. If there's any current, try to keep the fish on the upstream side so the current will work against him rather than against you. Watch for obstructions the fish might reach, and try to keep him from them.

Well stocked tackle dealers have a wide selection of lures suitable for ultra-light spinning in all varieties of spinners, wobblers and plugs. When bait-fishing, the weight of the bait may be enough for casting, but a split-shot or two a foot or so up on the line permits very light baits and even wet flies and nymphs to be handled successfully. For two pound test lines, or lighter, lures in the one-eighth ounce range should be suitable. One-quarter ounce lures are ideal for lines in the four pound test range, and so on. Readers may consider quarter-

ounce lures and four pound test lines as being standard tackle, rather than ultra-light. It is, for ordinary fishing. It isn't when fish really run large.

Ultra-light angling is not confined to spinning. It's ideal for fly fishing, too. A favorite fly rod in the ultra-light class is the little Orvis split-bamboo six foot one-piece stick weighing only 1½ ounces. Another made by Orvis is a two-piece six and a half footer weighing 2¼ ounces. These call for very small and light reels, but can carry an HCF line and will cast much farther than one might presume. Handling even small trout on such tiny tackle provides thrills in the finest tradition of angling. Not everyone will want to pay the prices for such rods, and lower priced ones of glass fiber in this small size range are hard to find. An alternative is to fit a fly rod grip to the tip section of the lightest and softest glass fiber fly rod available. This is an expedient, but it works better than one might presume. It also works similarly with glass fiber spinning rods.

In these days of put and take fishing when the big ones are few and far between, the biggest thrills in angling don't come with heavy tackle. To get a real kick out of fishing for the little fellows, try tackle so light and so fine that even they have a fair chance of obtaining their freedom. Try the same tackle, or a bit stronger, on the bigger game fish in salt water, or during the annual excursions to the salmon streams and trout lakes in the north woods. There's no need to go to extremes in using ultra-light gear, but the lighter you go the more fun you'll have!

Trout Day On Little Scrubgrass

By JOAN SWARTZ SWIGART

MANY AN angler in western Pennsylvania will remember Little Scrubgrass Creek in Venango County in the '40's—before the strip mines spewed their lethal juices into the stream and ruined a fisherman's paradise.

Where I lived, down in an evergreen-lined valley where Route 208 crossed over Little Scrubgrass, the first day of trout season caused effervescent excitement. Our small country store, The Old Mill Inn, shed its drowsy, wintry look and came to life in preparation for the Big Day.

Across the road, the playground became a parking lot and filled to capacity with Buicks, Packards, Fords, and jalopies. (This was equal rights day because the make of car or cost of fishing equipment made no difference to the fish hiding under cascading rapids or in quiet pools along Scrubgrass. Like death, fish humble the best of men.)

The stream lost its crystal-clear transparency, and the morning air resounded with the shouts of happy fishermen as they assembled their gear.

"Where did they stock the fish? Which branch is best?" "Can you buy bait around here?" "Which is better? Up or downstream?"

The banks of the creek were either noisy or quiet, according to the anglers who momentarily occupied the spot.

The dude fisherman bumbled along with the others. His creel squeaked with newness as he stumbled along in his form-fitting hip boots. The hooks, flies, catgut, and sinkers stuck in his hat resembled the ornaments on a Christmas tree. This Fancy Dan of the trout stream clomped through the water and flicked his pole back and forth whenever he thought that he had an audience. Whenever no one was near to admire his imagined casting prowess, the dude either moved on or fussed with his creel. He gave the impression that if he opened and closed his creel often enough that by some miracle a fish would be in there. Or so it seemed.

Along with the dudes, an occasional woman appeared. Amid the confusion of too many fishermen jockeying for casting position sauntered this woman. "Say, girlie, are you trying to catch a sucker?" someone asked. There was no mistaking the meaning of this remark. She wore three-inch spike heels, red socks, faded blue slacks, a too-tight sweater, and a man's red hunting cap. (The men weren't fond of or even kind to this type of woman invading the trout world, but they gave reserved respect to the few women who could cast a line and land a fish.)

As the last car drove out of the playground, a quilt of darkness moved into the valley and settled over the creek. The lights from Old Mill Inn glimmered softly out into the night and the creek slowed to its normal tempo.

The first day of trout season had come to an end. It was the same every year.

Yes, the approach of April makes me fidget; it's as if a built-in clock sounds an alarm in me. I had lived spitting near Little Scrubgrass for 13 years and now 20-some years

later I can still remember the sounds and sights of the opening day of trout season. As a grade-school child, I always took the day off to sell fishing worms or to peddle hot coffee to the men lining the bank of Little Scrubgrass. I remember many things.

One incident that I'll never forget is the year that it snowed or the case of the-attempt-to-revive-some-bait. I was a mile or so downstream from Old Mill Inn and was slipping along on snow-covered pine needles when I heard some cursing coming from a wide pool, known to the natives in the area as the Card Wheel. (Years before, there had been a mill there to card wool and the pond and a few ruins still remained. It was the local swimming hole.) Anyhow, a fisherman was perched high on a sloping rock on the north side of the pool—where he could cast into almost any spot. Since the day was cold enough to freeze the bristles off a pig, his worm had become ice-encased on the hook. To remedy this, he was trying to toast some life into the worm with his cigarette lighter and some hot swearing. In the process, though, he lost his balance, and he and the worm both went sliding off the rock into the icy water. I've never forgotten the pained look on his face as he floundered waist high in the pool while he held his pole and cigarette lighter high above his frost-trimmed head.

Since I had always been caught up in the first-day excitement, I had always taken it for granted that everyone everywhere shared it. In fact, some rural schools were closed the first day so that principals and students could match wits with rainbows and brownies. In Titusville, Pa., where I taught, April 15th was The Day. Later on, when I taught in Munhall, Pa., near Pittsburgh, I could never reconcile myself to the indifference accorded to April 15th. In all of my classes, it was a rare boy who had any knowledge of the thrill of casting a line into an Arctic-cold trout stream. I couldn't help but wonder where all of the city fishermen were because Little Scrubgrass had given up her bounty to many a Pittsburgher over the years.

The last that I heard, at least one branch of Little Scrubgrass was still polluted; the many petitions to save it from strip mine poisons, to my knowledge, never succeeded. Old Mill Inn, where half-frozen anglers used to go to warm up, to buy a sandwich or coffee, or just to talk, is now a summer home. Even April 15th is not the opening day of trout season anymore—it's the Saturday closest to it. Route 208 no longer snakes down into the valley and crosses over Little Scrubgrass; there's a new bridge now that spans the valley.

Anyone driving over this bridge today will never know what joys that little stream held for many years for hundreds of fishermen—and a child.

Yes, April 16th is almost here.

I can feel it!

Mr. "Brookie"

By GEORGE W. "HEAP" ALEXANDER



MR. "BROOKIE"

ROAMING the back-country small streams of north-western Pennsylvania there often travels a most unusual fisherman. He is a trout fisherman. This in itself is certainly not unusual. The unusual fact about this fellow is that he fishes only for small trout. Native trout. Native trout that are where they are by nature's method. Not hatchery produced trout but trout reproducing on their own. Such fishing in the year 1966 does come under the heading of the unusual.

If you happen to run across a fellow, away up some small tributary stream using a fly rod and fishing upstream it is likely to be Marion A. Rupert of Sheffield, Pa. R.D. If the fellow is dressed in green colored clothes, has a ribbon type lead sinker attached back of a fishing worm, then for sure it is Rupert. BUT if his creel is empty then check again, for chances are it isn't Rupert.

Marion is a former employee of the National Transit Co. now retired. His life-long work was gauging and running oil in the upper area of Tionesta creek where he resides. While Rupert is retired from such duty he is far from being retired as a fisherman. Fishing for brookies, native brand, is, and has been, a Marion Rupert hobby for 54 years.

For the kind of trout Rupert goes after, and gets, one doesn't follow fish trucks or keep posted on late stockings. In fact this Forest countian never fishes streams that are stocked. He doesn't fish easy-to-reach places. He doesn't fish big water. He isn't after "braggin'" or trophy size fish. All he desires and all he has ever fished for are

the native brookies. Such trout are no longer plentiful. Men's activity against nature has made them scarce. To locate and catch such trout takes some doing and most of such doing comes in the form of walking. Walking at distances and in places where fishermen are scarce and the brush is plentiful. Places where there is no problem of elbow room or casting space. Places where there are no beaten paths along the banks and no litter-bugging to swear at. "Brookies" are in "back-in" country, and where brookies are, Rupert goes.

This old timer will tell you—"you don't have to be crazy to catch brookies, but it helps. You don't give up when after fishing a few hundred yards upstream on small brook trout water; you just keep going on upstream and you'll find natives".

Rupert's method is always upstream fishing. He is convinced that dark clothing is a must, hence the green outfit. He uses but one bait—fishing worms. The sinker used is a lead ribbon wrapped around the line. In recent years hooks, of the kind he favors, are hard to come by. He ties his own snell on #4 Ibbotson hooks.

For years Rupert has kept a diary of his brook trout fishing jaunts, recording fine catches. More amazing is the fact there were no big trout, as modern trout go, in the entire life-long catch. The two largest have been 12 inch trout. None of the trout were stocked trout.

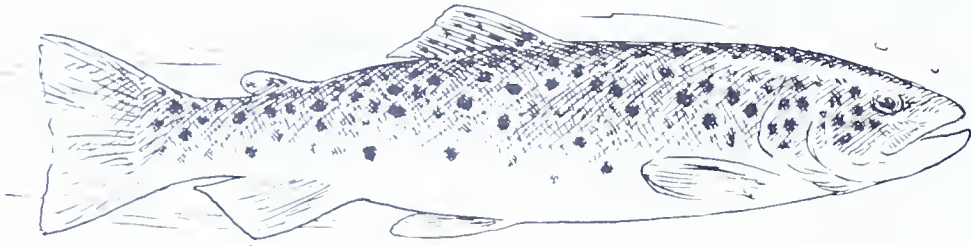
To talk with Rupert about his brookie fishing is an education. He has had a lot of interesting experiences and seen a lot of unusual sights. He has had encounters with rattlesnakes, and on occasion had had mother bear "complain" about intrusion. One time years ago, when the legal daily limit was 25 trout, he came off a favorite tributary of Tionesta creek with his 25 trout. That was not at all unusual, but the combined weight of the 25 natives, when cleaned, was 4 lb. 9 oz. or just the weight of one bragging size rainbow or brownie.

Rupert's kind of streams have grown scarcer. Especially the ones where they propagate in any number. He admits to disliking the "put and take" system of today, and would like to see some study of upstream, small size, stocking.

Such a fisherman in these days deserves some admiration. What he catches hasn't cost anyone a cent for being there to catch. Rupert's fishing, as we have said, takes a lot of exercise and doing, but a creel holding some speckled brookies, to this fellow is ample reward. He is a fisherman who likes his fishing tough.

We doff our hat to you Mr. Brookie.

Experience With a Brown Trout



By ED SKILTON

NEAR sundown, the brown trout grows more and more uneasy. Soon he will embark on a very serious mission. Somehow he knows that it is now, as the sun sinks and darkness gradually falls, that the crayfish will creep from their sheltering rocks where they have been hiding all day. Yes, the trout is definitely aware of this customary crayfish procedure and instinct tells him that it is fast approaching the time for him to return to the shallow riffle in search of those crabs. He does this innocent of the scientific reasons for the movements of the shellfish; all he is feeling is the instinct which spurs him into the hunt.

From the moment he leaves his home, which is located in deep water in the shadow of a large tree, the trout becomes very observant. Throughout the first few feet of travel away from his home, he searches the nearby water for the large crabs that lie in constant ambush for him and other unwary fish. He sees none of those menacing creatures, so he continues on his way.

Soon he arrives at the foot of the riffle where he will search for the crabs. He is quite hungry and immediately begins his search for food. Three feet from the riffle, he spots a large victim crawling out of its mud burrow, which is located under the protection of a rock. The trout swims slowly to his right to get out of the crayfish's field of vision. He maneuvers to get in back of the crab, thus attempting to prevent its possible flight back into its home.

Before the trout can get into the desired position, however, his quarry observes him and rapidly crawls back into the burrow. At an unbelievable speed the trout lunges for the scurrying brown mass, but his fearsome jaws snap shut a fraction of an inch behind his fleeing victim. In a fit of rage, the trout swims around the rock—stirring up clouds of silt and breaking the surface of the water in his frenzied actions. The trout is now fully aware that he has lost the race, but he will not surrender to the truth.

He swims to the entrance of the burrow and forces his hardened nose into the opening. Then with a mighty lunge he forces himself a fraction of an inch into the cavern. He knows that the victim will be hiding under the rock and that if he can disturb it, it will flee into the open water where he can chase and catch it. With another Herculean effort he manages to force his nose under the edge of the stone. Now, with a continued forward thrust and a twisting motion, he manages to turn the rock over and expose his prey. A dark form flashes for a moment in the swirling silt; the trout attacks and seizes it in his

mouth. Instinctively, but not soon enough, the trout realizes his mistake and a sharp pain flows through his head. He begins to fight furiously for the life he so richly enjoys; but, alas for him, though, he is drawn slowly to the shallow water along the shore. As the angler sees the size of the fish he has hooked, he realizes that it is the monarch of Pine Tree Hole. The "king" has made his first and maybe his last mistake. In a fit of rage, the "king" has mistaken a deer hair and muskrat fur imitation of the crayfish he was hunting.

The tale of the too-anxious trout just unfolded above has been a true-life experience. It has happened for me and it can happen for you, too, if you have the right fly at the right time. The fly in this case is an imitation of a crab tied with deer hair and muskrat fur. The fly is tied backwards so that it can be fished with the true actions of a crab. The pinchers of the imitation are tied on near the bend of the hook so that they extend back over the barb of the hook. Then the body is tied on toward the head. Thus, when the imitation is retrieved through the water in a slow, jerky motion, it will present a fine picture of the animal it represents.

Although these imitations work throughout the year, they may be used most profitably during the first few weeks of the season. It is at this time that the trout will be eating this type of an object and will readily take the imitation. This fly is best constructed when tied on a size 10 or 12; but a variety of sizes from 2's to 16's will also work well at times.

Early in the season the larger sizes seem to work better than the smaller ones. The crab should be fished on or near the bottom of the stream, so that if the water is high and roily—weight can be added to make the imitation sink. Adding that necessary weight may be done in a number of ways. The best way to do this is to add a thin strip of lead to the fly as it is being tied. If this is not done, a split shot may be added to the leader ten or twelve inches above the fly. As the season progresses, the water will get lower and the smaller sized crabs will tend to work much better. As a matter of fact, no weight at all is needed for this type of fishing. Also, at such times, it would pay the angler to have a good selection of varied sizes with him.

In order to have these flies, a man must know how to tie them. The following is a brief explanation of how to do this:

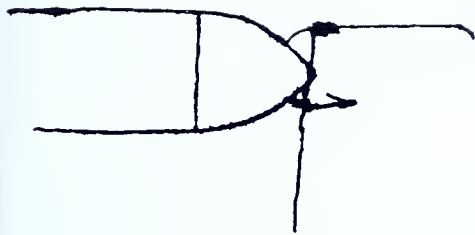


Figure 1
Tie thread onto hook $\frac{1}{4}$ inch from bend of hook.

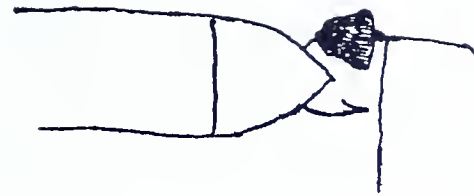


Figure 2
Dub o head of muskrat fur onto the hook. Taper it from the back forward.

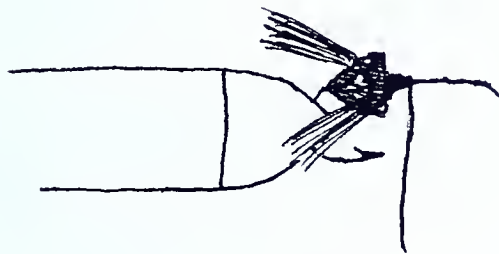


Figure 3
Tie in two small bunches of deer hair on the sides of the hook so that they extend back over the bend of the hook.



Figure 4
Taper a body of muskrat fur completely up to the head of the fly.

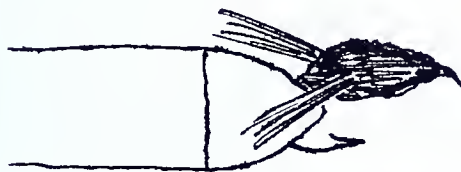


Figure 5
Whip finish the head.



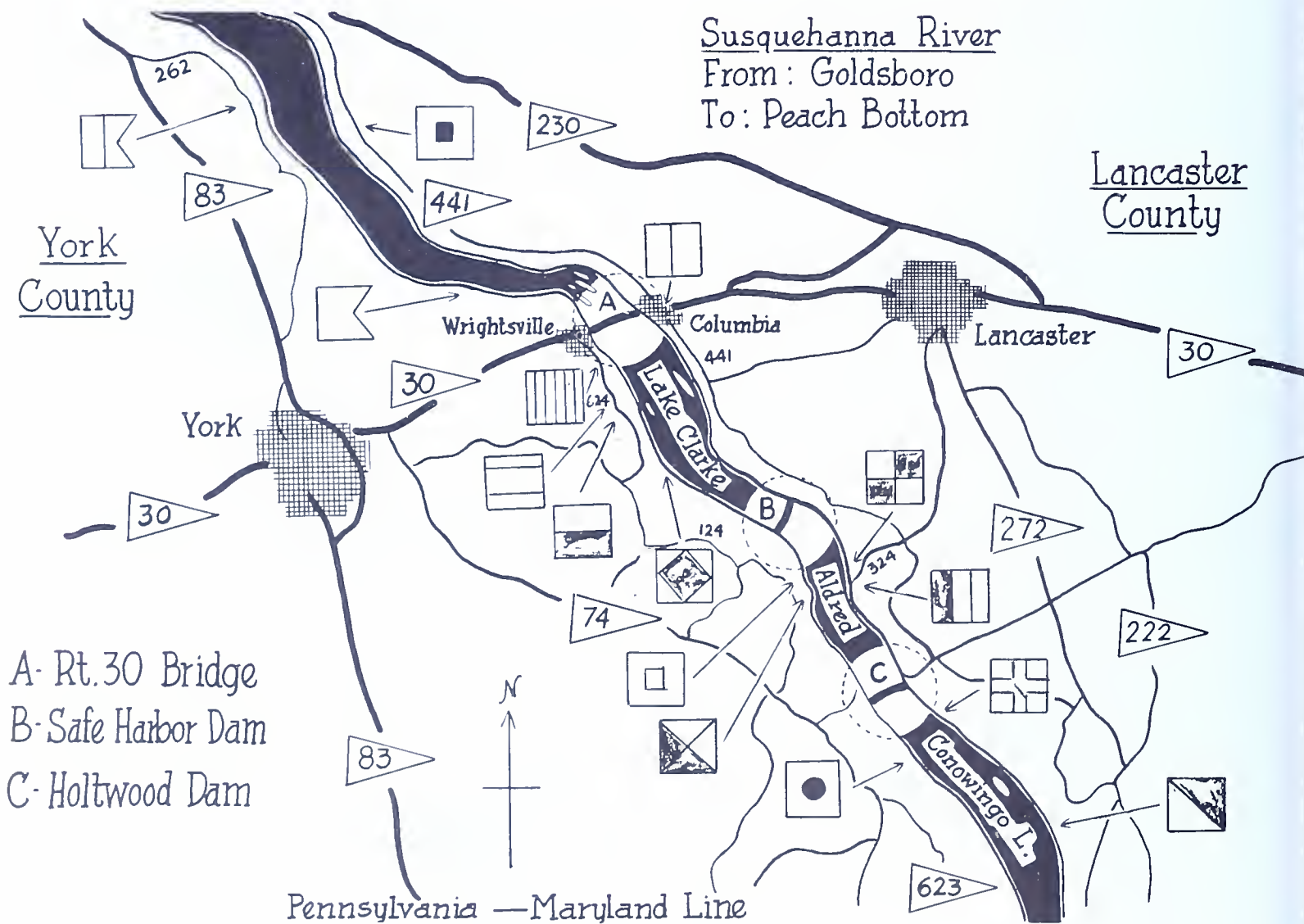
Figure 6
A top view of the crayfish fly.

DIRECTORY OF PENNSYLVANIA MARINAS

ACCESS AREAS AND

BOAT RENTAL FACILITIES

By ROBERT G. MILLER



For the convenience of the pleasure boat owner, as well as the ardent fisherman who perhaps doesn't own his own craft, the following is the first in a series of sketches prepared to locate marinas, access areas and boat rental facilities throughout Pennsylvania.

A separate sketch, embodying a particular body of water, will appear in the Pennsylvania Angler each month along with a brief outline of roads leading to each area.

Although these sketches are prepared by making use of a current official Pennsylvania road map, they are not intended to serve as a substitute but should only be used

as a guide in pin pointing the areas on a regulation map.

Each area on the sketch is identified by an international code flag and by comparing these with identical symbols used in the index you can determine the name of the access point, or marina, how to get there, facilities provided and telephone numbers if available.

The following index covers the lower Susquehanna River, from Goldsboro, York County, south to Peach Bottom located just above the Pennsylvania-Maryland line in lower Lancaster County.

 Goldsboro Boat House, at Goldsboro. Take Lewisberry exit off Interstate Rt. 83, between York and Harrisburg. Features public ramp established by Pennsylvania Fish Commission, limited number of fishing craft, with or without outboard motors, for rent; gasoline, oil and accessories. Telephone: Lewisberry 938-2248.

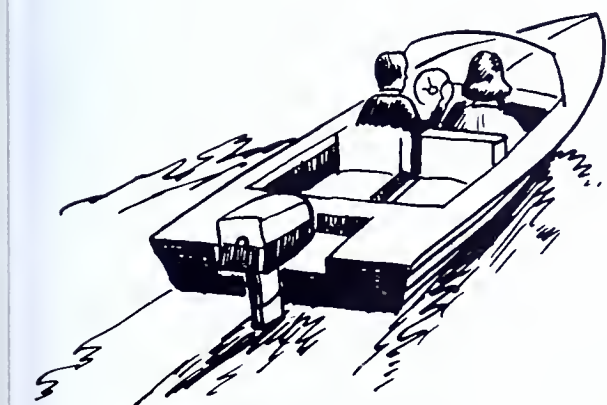
 Accomac, north of Wrightsville. Public ramp, picnic, parking and sanitary facilities provided by Pennsylvania Power & Light Co. Campsites planned, fishing craft rental available on adjoining property. Gravel bars and ridges of rock require extreme caution on the part of transient boatmen. Bass fishing generally excellent during late fall months. Turn north off Rt. 30 at first intersection west of Wrightsville towards Accomac Hotel.

 Pennsylvania Fish Commission ramp at Wrightsville, along Rt. 624, just south of the Lancaster-York intercounty bridge. Plenty of parking space but caution required in crossing the gravel bars which form a natural partial barrier to open water and eventual access to deep water below the remnants of the old canal dam.

 Lake Clarke Marina, Lloyd Becker, proprietor, at Long Level. Located along Rt. 624, about five miles south of Wrightsville, it offers gasoline and oil, parking, some repair work, hoist and surface ramp. Limited storage facilities. Telephone: Wrightsville 255-3571.

 Welsh's Boat Yard, Norman Welsh, proprietor, at Long Level. Gasoline and oil, ice, parking, repairs, accessories and restaurant. Located on both sides of Rt. 624, at Cabin Branch Creek, yard offers trailer ramp and hoist which operates out of boat house. Limited outdoor and indoor storage, and on water mooring over the summer months. Telephone: Wrightsville 255-3942.

 Safe Harbor Water & Power Corp. ramp open to the public until 9 p.m. daily. Picnic, parking and sanitary facilities. Located at the extreme end of Long Level, off Rt. 624 at the foot of the Bull Run Road which leads to Craley.



 Otter Creek ramp, developed by Pennsylvania Power & Light Co. Concrete ramp, plenty of parking space, picnic and sanitary facilities, as well as camp sites and combination grocery store and caretaker's cottage being constructed for the 1966 season. Located along Rt. 124, about five miles south of New Bridgeville.

 Gamler marina, Charles Gamler, proprietor, near York Furnace. Gasoline and oil, floating dockside refreshment stand, storage, sales and service. Parking and ramp available. Telephone: Airville 862-3706. Turn off Rt. 124 past Indian Steps Museum.

 Little Bear Marina Inc., Woodbine R1. Row-boat rentals, on water storage, gasoline, oil, groceries and parking. Turn off Rt. 74, just south of Sunnyburn, onto Slab Road and River Road. The latter is a dirt road with a steep grade and curve near the marina. Use caution when wet. Telephone: Airville 862-3725.

 New Pennsylvania Fish Commission access area at Falmouth, originally Hess' landing. Not for pleasure craft but ideal for fishing, particularly record breaking muskies, large bass and wall-eye. Ramp and concrete parking area with sanitary facilities planned for 1966 season. Gasoline and oil available in Falmouth. Boat rentals available on adjoining property and from Walter Hess, Bainbridge R1. Telephone: Elizabethtown 367-2965. Landing located along Rt. 441, just south of Middletown.

 Howard T. Fritz marina, between Walnut Street and Lancaster-York intercounty bridge. Gasoline, oil and boat rentals. Floating trailer ramp and parking available. Telephone: Columbia 684-2397.

 Lawrence Prangley launching area, at Pequea, on Rt. 324 on north side of the Pequea Creek. Gasoline, oil and parking on site. Telephone: Rawlinsville 284-4070.

 Albright Marina, at Pequea, off Rt. 324 on south side of Pequea Creek. Dockside gasoline and oil, parking, sales and service limited storage and repairs. Telephone: Rawlinsville 284-4539.

 Fishing Creek, Arthur Ford, proprietor, at Fishing Creek. Boat rentals, gasoline, oil, outside storage, groceries. Trailer ramp and hoist out of boat house. Turn west off Rt. 272, below the Buck towards Muddy Run hydro-electric power plant project then past the Susquehannock State Park south to Fishing Creek. Telephone: Hensel 548-2138.

 Peach Bottom, C. Meryl Murphy, proprietor. Boat rental, outside storage, gasoline and oil. Take Rt. 222 to Wakefield, then west at cross-roads to Peach Bottom. Telephone: Hensel 548-3125.



Notes FROM THE STREAMS

■ Little Sugar Trout Club, located on Little Sugar Creek, created a number of stream improvement devices in 1965. Soon after the completion of one device in particular, in front of the clubhouse, a chunky 17-inch brown trout took up housekeeping in the provided cover. The members of the club report "Charlie" has been caught and released five times and all on the same bait, a caddis fly nymph. Fly tying members have no doubt doubled production on this pattern.—**District Fish Warden THOMAS L. CLARK** (Crawford).

■ The Department of Mines is now in the process of backfilling abandoned strip mines and deep mines on the West Creek watershed in Elk County. The St. Marys Sportsmen's Club is working in conjunction with the Dept. of Mines on the project, since this is a beautiful stream in their backyard. If this project is successful in stopping the flow of mine acid into the stream and it will support trout stocking, it will be the first polluted stream in Elk County to be cleaned up and will add another five miles for the fishermen.—**District Warden BERNARD AMBROSE** (Elk).

■ With the publicity that the Allegheny River is receiving from the outstanding catches of walleye, muskie and bass, more and more fishermen in this area are not putting their rods away after trout season, but are taking advantage of this great river and making some beautiful catches. It is sometimes difficult to convince people that fishing is sometimes better in their backyard than it is traveling three to four hundred miles and then find out you are either too early or too late. Those who have fished the Allegheny and made a good catch are convinced that it is the best warm water river in eastern United States.—**District Warden BERNARD AMBROSE** (Elk).

■ A fish warden is accustomed to receiving all types of complaints, many a result of the competition among sportsmen for the use of our water areas. A complaint from a fisherman growling about a motorboat coming too close to his boat is quite common, and boaters frequently complain about fishermen anchoring their boats in the best waterskiing areas. Recently, however, I received a complaint that really takes the cake. An ice skater called me to insist that something be done about the ice fishermen who were cutting holes in the ice. He felt they were creating a dangerous situation and should stop this immediately. I wonder if we'll ever have enough water area to support all the recreation desired by our sportsmen?—**District Warden JAMES T. VALENTINE** (Huntingdon-Fulton).

■ While transporting an ancient cane fishing pole from the Warden Training School at Bellefonte to Southeast Regional Headquarters for a fishing school, I made a routine check of the Falmouth area of the Susquehanna River (a musky and walleye hot spot). When I parked my auto, an old timer noticed the cane pole through the rear window. He said, "Young man, I don't want to embarrass you, but I don't believe that pole will stand up to the size fish we're catching here." I readily agreed.—**District Fish Warden SAMUEL W. HALL** (Lancaster and Lebanon Counties).

■ One of the finest and most skillful fly fishermen this officer has ever met was a native of Lewistown, Mr. Lyle Elloitt, who was fatally injured in a hunting accident.

"Smokey" Elloitt was a true and loyal friend and was most eager to convey his knowledge of fly fishing to one and all, especially to youngsters.—**District Fish Warden RICHARD OWENS** (Mifflin-Juniata).

■ On January 1, 1966, I counted over 186 people enjoying fishing or just walking around at Koon Lake. One group of fishermen really had all the comforts of home, a nice fire, hamburgers, steaks and fried potatoes, apple butter bread, plus a portable television set on which they were watching a football game. I asked if there was anyone in the crowd who would have stayed at home if there was no portable television. One said that was the only way they got him to come, and now besides watching the football game, he caught a nice rainbow trout. The group had five nice rainbow trout, all around 15 inches. Who could ask for more?—**District Fish Warden WILLIAM E. McILNAY** (Bedford and Fulton).

■ Many fishermen in Bedford County, both men and women, enjoy fishing for the white sucker with small hooks baited with a worm, using light tackle. Quite a few feel that they are in a class of their own, and that their ability to take suckers with this tackle compares to fly fishing for trout. The sucker fishermen are of all ages and Yellow Creek is a favorite spot.—**District Warden WILLIAM E. McILNAY** (Bedford-Fulton).

■ Ernest J. Eberhardt, a justice of the peace from Hawley, wash fishing Lake Wallenpaupack, and doing quite well catching nice perch. After he had boated a few, everything stopped and he had no more action. In a short time he noticed a nice sized otter along side of his boat. It could be the otter took over his school of perch.—**District Warden HARLAND F. REYNOLDS** (Wayne).

■ Dean Crawford of Brookville, has been appointed chairman of the first annual Pennsylvania State Trout Fishing Championship which will be held here this year. The top award will be an expense paid trip to the Pennsylvania State Fishing Championship held at Tidioute each October. There will be no entry fee of any kind and fish must be caught on the North Fork of Red Bank Creek and tributaries. There will be twenty-seven prizes awarded for the largest brook, brown and rainbow trout caught by men, women and children. The week-long event will start at 9 A. M. Saturday, June 11 and will continue until 2 P. M., Saturday, June 18.—**District Warden JAMES DONAHUE** (Jefferson).

■ From all indications ice fishing is rapidly becoming a family sport. It is not unusual to see a father with several small boys trying their luck with tip-ups on Monroe County lakes. Over one week-end in January I checked between 85 and 90 fishermen ice fishing on Bradys, Gouldsboro and Tobyhanna Lakes. It was a very windy day, but they seemed to be enjoying the sport. Some had traveled from Philadelphia to try their luck.—**District Warden WALTER J. BURKHART** (Monroe).

■ Area sportsmen have expressed their appreciation that the Pennsylvania Power and Light Company provides permits for those who wish to fish at their Shamokin Dam plant site. Many trophy fish have been taken at this spot.—**District Fish Warden ROBERT J. PERRY** (Columbia, Montour, Northumberland).

■ During the extended trout season, it became very apparent that the special fly fishing project on Mud Run was known and appreciated beyond the confines of Carbon County, as fishermen were checked from New York, New Jersey, Maryland, Virginia, Ohio and Delaware.—**District Fish Warden FREDERICK W. OHLSEN** (Carbon).

■ While patrolling Black Moshannon Lake recently I talked to an ice fisherman who should get an award for sheer determination. During the day he had his temporary wind shelter blown down eight times, the winds of 20 to 40 miles per hour blew his bait bucket over three times, he lost his hat twice, his lunch blew across the ice about 200 yards, the near zero weather constantly kept freezing his holes, he lost one of his gloves, and dropped and broke his thermos of hot coffee. After all of this extreme effort, his total catch was two 17-inch pickerel. Truly the ice fishermen are a separate breed from the average angling fraternity.—**District Warden PAUL ANTOLOSKY** (Centre).

In this speeding modern world an increasing number of people are realizing that just to stop, just to enjoy nature, has its own significance.—Edwin Way Teale, *Wandering Thru Winter* (Dodd).

"It seems to me we're (the population) growing too fast to grow right."—Sec'y of Interior Stewart Udall.

WATER, WILL WE HAVE ENOUGH?

Water, next to air, is man's most precious and plentiful resource. But he has blithely taken it for granted using and misusing it with little thought of the future.

It freezes at 32 degrees, vaporizes at 212, and flows as a liquid between these temperatures. It covers 70% of the earth and does a wonderful job of making it hospitable to life. Its specific gravity permits ice to float and melt.

The average American family uses about 60 to 75 gallons of water per day per member of the family for such purposes as drinking, cooking, bathing, laundry, sanitation purposes, and washing cars, etc. It takes about 30 gallons of water for a bath, 60 for a shower, 17 per washing machine cycle and 5 gallons every time you flush the commode. It takes an ocean of water to maintain our jobs such as 1,400 gallons to produce a dollar's worth of steel, 500 gallons to produce a yard of wool, 320 gallons for a ton of aluminum and 40,000 gallons for a ton of paper. Most farmers know how much water crops take till harvest time and how much each head of stock will drink in a day's time.

Pennsylvania has about 2,300 miles of streams polluted with acid mine drainage, but mine drainage is not the only pollution going into our streams, we have sewage, insecticides, pesticides, detergents, oil and other chemicals. The fight against pollution is everybody's fight, now and not later.

There is no substitute for water, man with all his ingenuity still has not come up with anything that will come close to replacing water.

Fish, wildlife and recreational uses are just a by-product of clean water, so now is the time for everyone to give serious thought to doing something for the conservation and protection of our streams and underground waters. Don't wait till that spring or well or stream goes dry, think about it now.

Joseph S. Dick

State Fish Warden

(In *Somerset County Soil Conservation District Bulletin*.)

Lewistown, Pa.

Mr. Richard Owens,
District Fish Warden
Lewistown, Pa.

Dear Mr. Owens:

I thank you for coming to Seven Mountains Scout Camp recently and helping with our "Operation Iceberg."

The scouts got a big kick out of the ice fishing demonstration, and several of the boys told me they thought this was one of the best events they had at the weekend.

Please accept our thanks for your time and effort.

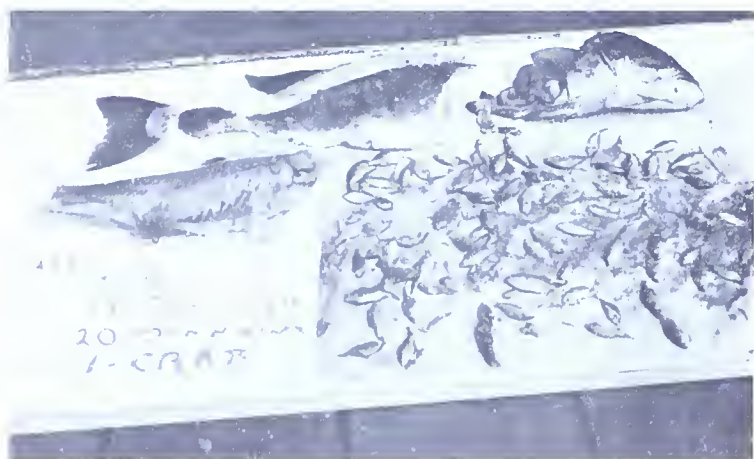
Sincerely yours,

/s/ Llewellyn T. Jordan, Scout Executive
Juniata Valley Council, B. S. A.





FISHING SCHOOL, one of many held by the Pennsylvania Fish Commission to teach people how to fish. At left is District Worden Robert Perry, Northumberland County, assisted by right, expert angler Frank Morsiconi and special worden, at the Borough of Mt. Carmel.—Mt. Carmel Item Photo.



ONE TOO MANY. This three-pound boss should have been contented with the 78 sunfish, 20 minnows, and one crawfish it had already gorged on, but it couldn't resist the baited hook that Kervin Hake, Wrightsville, York County, presented to it. Hake, who caught the big fish in Kreutz Creek last season, was astounded when he opened the bulging belly and counted the undigested contents.—Columbia News Photo.

GALLONS PER PERSON

In ancient times, total daily water requirements per person for all purposes—including drinking, food preparation, bathing and washing clothes, averaged no more than 3 to 5 gallons. Today as much as 60 to 70 gallons per day are used for each person in urban areas of the United States for household and lawn-watering purposes.—*Outdoor Oklahoma*.

Hardwood trees burn with a hotter and longer lasting flame and form a better bed of coals than softwood trees.

Resinous softwoods (pines, etc.) make a good kindling for starting fires. However, they are smoky, short-lived and prone to throw sparks.



INSTANT WORMS

Remember how you hated to spade the entire garden last spring, just to get enough worms to go sucker or trout fishing? By making the following preparations now, you will be assured of an instant worm supply next spring.

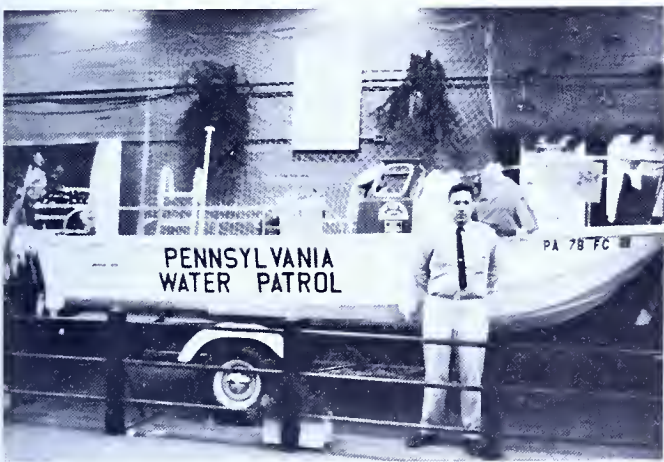
Instead of cleaning up your entire garden in the fall, allow some of the plants to remain in the ground all winter. When the topsoil thaws out in the spring, their root systems will be full of small red worms that are deadly for trout and suckers.

The root systems of corn stalks are best, but cabbage and tomato plants are also good. Just pull them out of the ground by their tops, and you will see the many worms intermingled among the roots. It is not uncommon to find as many as two dozen or more worms in each bunch of roots.

ACTION AT HARRISBURG SHOW



PLENTY OF CUSTOMERS at cammission's busy booth.



WATER SAFETY PATROL officer Dean Klinger with cammission patrol craft.



FIRST TROUT shipment far Scotts Run Lake, French Creek State Park. Special Fish Warden S. Maciejewski on left, assisted by Berks County spartsmen.—Phata courtesy af Reading Eagle Times.



WHAT HAPPENED HERE?—Charles W. Eltz, 319 Hallenbach St., Reading, displays the six-pound carp he caught while fishing in the Pequea Creek in Lancaster County. Eltz, an ardent carp angler who catches hundreds af them each season, caught the tail-less fish an a kernel af carn. He said it didn't put up much af a flight, probably because it had na tail. The scar is completely healed over, indicating that the fish last its tail some time ago. The remaining part af the fish was 17 inches lang and Eltz figures the missing section was about eight inches lang. He kept the fish alive in a wash tub filled with water aver night before bringing it ta the Reading Eagle photographic studia far the picture.—Eagle Phata.

HUNTING & FISHING



"WE START YOU OFF."

TROUT STREAM INSECT EMERGENCE TABLES

By CHAS. M. WETZEL

Common Name	Scientific Name	Habitat	Emergence Date
Little Black Stonefly (3)	<i>Taeniopteryx maura</i>	Pa., W. Va., Tenn., Mass., N. Y., Minn., Mo., Md., Kan.	Apr. 15
Red Quill (1)	<i>Ephemerella subvaria</i>	N. Y., Pa., N. J., Ont., Quebec	Apr. 16
Little Black Caddis (2)	<i>Epeorus pleuralis</i> , <i>iron fraudator</i> <i>Chimarra aterrima</i>	Pa., Can., N. Y., N. J., Del., Ind., Ga., Fla., Washington	Apr. 17
Red Legged March Fly (5)	<i>Bibio femoratus</i>	Pa., N. Y., N. J.	May 1
Smokey Alderfly (5)	<i>Sialis infumata</i>	Que., N. S., N. Y., New England, N. J., Pa., Wash., Mich., Ill., Minn., Calif.	May 1
Black Midge (5)	<i>Glyptotendipes lobiferus</i>	Pa., N. Y., N. J., Ont.	May to Sept.
Light Stonefly (3)	<i>Isoptera signata</i>	Pa., N. Y., N. S.	May 1
Penns Creek Caddisfly (2)	<i>Brachycentrus numerosus</i>	Well distributed through the northern hem.	May 8 to May 25
Black Quill (1)	<i>Leptophlebia cupida</i>	Pa., Ohio, N. S., Nfld., Ill., Can., N. Y., N. H. N. C., R. I., N. J., Ont., Quebec, Mass.	May 15
Early Brown Spinner (1)	<i>Leptophlebia cupida</i>	Same as above	May 16
Yellow Spider (4)	<i>Antocha saxicola</i>	Well distributed throughout the northern hem.	May 15
Stonefly (3)	<i>Neophasganophora capitata</i>	Pa., N. Y., Md., Mass., Minn., Quebec, N. S., Ind., Ill., Mich., Kan., Tenn., N. C.	May 15
Spotted Sedge (2)	<i>Hydropsyche slossonae</i>	Pa., N. Y., N. H., Ill.	May 16
Pale Evening Dun (1)	<i>Ephemerella dorothea and rotunda</i>	Pa., N. Y., Can.	May 20
March Brown (1)	<i>Stenonema vicarium</i>	Pa., N. Y., N. B., N. H., Quebec, Tenn.	May 20
Great Red Spinner (1)	<i>Stenonema vicarium</i>	Same as above	May 21
Green Caddis (2)	<i>Rhyacophila lobifera</i>	Pa., N. Y., Ill.	May 21
Dark Green Drake (1)	<i>Hexagenia recurvata</i>	Pa., N. Y., Mass., Me., W. Va., Mich.	May 21
Brown Drake (1)	<i>Hexagenia recurvata</i>	Same as above	May 23
Ginger Quill Dun (2)	<i>Stenonema fuscum</i>	Pa., N. Y., Ont., Que., New Brunswick	May 24
Pale Evening Spinner (1)	<i>Ephemerella dorothea and rotunda</i>	Same as Pale Evening Dun	May 25
Ginger Quill Spinner (1)	<i>Stenonema fuscum</i>	Same as Ginger Quill Dun	May 26
Fish Fly (5)	<i>Chauliodes serricornis</i>	Pa., N. Y., Md., Ga., Ohio, Minn.	May 26
Green Drake (1)	<i>Ephemera guttulata</i>	Pa., N. Y., Tenn., Ont., Quebec	May 28
Black Drake (1)	<i>Ephemera guttulata</i>	Same as Green Drake	May 28
Gray Drake (1)	<i>Ephemera guttulata</i>	Same as Green Drake	May 28
Iron Blue Dun (1)	<i>Leptophlebia johnsoni</i>	Pa., N. Y., N. H., Que., Ontario	May 28
Grannon (5)	<i>Brachycentrus fuliginosus</i>	Pa., N. Y., Wash., Ontario	May 28
Jenny Spinner (1)	<i>Leptophlebia johnsoni</i>	Same as Iron Blue Dun	May 29
Brown Quill (1)	<i>Siphonurus quebecensis</i>	Pa., N. Y., N. C., Ont., Quebec	June 1
Green bottle or			Variable
Blue bottle fly (5)	<i>Lucilia casear</i>	Commonly distr.	
Whirling Crane fly (4)	<i>Tipula bella</i>	Pa., N. Y., N. J.	June 1
Orange Crane fly (4)	<i>Tipula bicornis</i>	Same as above	June 1
Golden Eyed Gauze Wing (5)	<i>Chrysopa occulata</i>	Commonly distr.	Variable
White Mayfly (1)	<i>Stenonema rubromaculatum</i>	Pa., N. Y., Mass., Ill., Ont., Quebec, N. B., N. S.	June 2
White Gloved Howdy (1)	<i>Isonychia albomaculata</i>	Pa., N. Y., Ont., N. C.	June 27
Yellow Sally (3)	<i>Isoptera spp.</i>	Commonly distr.	June 28
Golden Spinner (1)	<i>Potomanthus distinctus</i>	Pa., N. Y., W. Va., Ohio	June 28
Willow or Needle Stonefly (3)	<i>Leuctra grandis</i>	Pa., N. Y., N. J., North Carolina	June 28
Stonefly Nymph (3)	<i>Acroneuria lycomias</i>	Pa., N. H., N. Y., Mass. Me., W. Va., Mich., Wisc., Que.	
Brown Silverhorns (2)	<i>Athripsodes wetzeli</i>	Pa., N. Y. Similar species in Wisc. and Ontario	June 29
Big Orange Sedge (2)	<i>Neuronia postica</i>	Pa., Ga., Mass., Wisc., Newfoundland and Washington, D. C.	June 30
Yellow Drake (1)	<i>Ephemera varia</i>	Pa., N. Y., Mich., N. H., Ont.	July 1
White Caddis (2)	<i>Leptocella exquisita, leptocella albida, leptocella spp.</i>	Florida to Canada	July 1
Deer Fly (5)	<i>Chrysops vittatus</i>	Eastern and Northern States	Variable
Green Midge (5)	<i>Chironomus modestus</i>	Pa., N. Y., N. J., Ontario	July 4

Note. The number in parenthesis following the common name of the insect indicates the following: 1. Mayfly; 2. Caddisfly; 3. Stonefly; 4. Crane fly; 5. Miscellaneous.

For a more detailed treatise, as well as a description of the natural insects described above together with their imitations, the reader is referred to the following books available at most libraries:

Practical Fly Fishing by Chas. M. Wetzel. The Christopher Publishing House, 1140 Columbus Avenue, Boston, Mass.

Trout Flies by Charles M. Wetzel. The Stackpole Company, Harrisburg, Pa.



SPINNING LURES—CHEAP

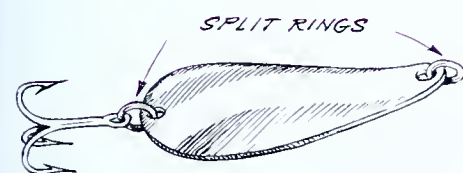


FIG. 1

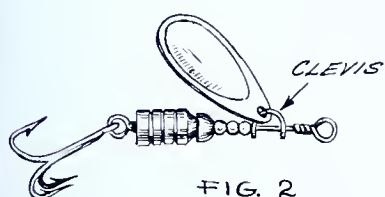


FIG. 2

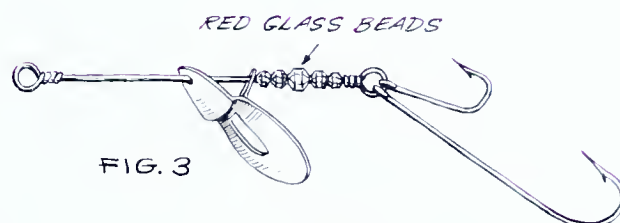
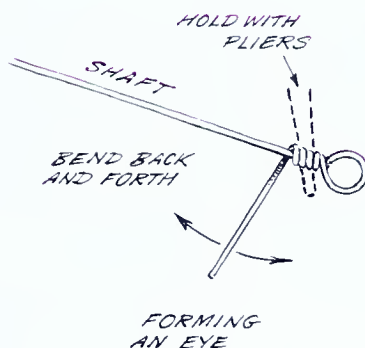


FIG. 3

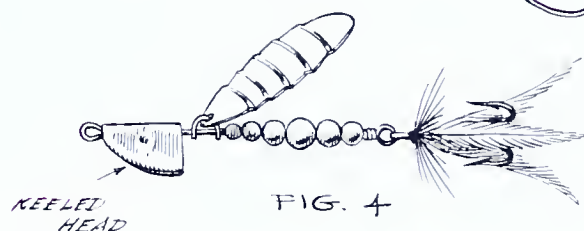


FIG. 4

Could you use some new spinning lures next spring? Who couldn't? These small spoons and weighted spinners are great for trout, bass, pickerel, and panfish, and nobody seems to have enough of them.

Did you know you can make your own for a fraction of what you'd have to pay in the stores: You can, and very easily. What's more, assembling these lures can be a lot of fun on a long winter evening.

A number of angler's supply houses sell all the materials needed—wire for shafts, beads, spinner blades, clevises, bodies, spoons, split rings, hooks. By buying enough to make at least a half-dozen lures of a kind each completed lure will cost only twelve to twenty cents. If you split the cost of materials with one of your fishing buddies your investment will be very little.

The only tools you will need are pliers for forming the eyes in the wire and for attaching split rings. Ordinary long-nosed pliers will do, but special ones with round jaws will form loops without flat spots. No need to cut off the wire after you've made a winding around the shaft—simply hold the winding with pliers and bend the end back and forth with your fingers until it breaks off against the shaft. Done this way there will be no sharp end to cut you.

One of the easiest lures to make is the spoon in figure 1. This is simply a matter of assembling—fastening the treble hook to the spoon with a split ring, then attaching another split ring to the front of the spoon.

The weighted spinner in figure 2 is made by forming a loop in the wire, slipping on a treble hook, then closing it by taking a few turns around the shaft. Bend the end

back and forth to break it off. Now slip a metal body over the shaft, then two bead bearings, then a clevis on which you've hung a spinner blade. Form another eyes at the head and the lure is finished.

Figure 3 uses a special June-bug spinner on a long shaft and two single hooks. Unlike the others, it is designed to use with worms or other bait.

Figure 4 has a feathered treble hook. These hooks can be bought already made up, or you can decorate your own hooks to suit yourself. With fly-tying thread tie three hackle feathers or a bunch of bucktail to the shaft, then finish off with a few turns of hackle. Tie off and lacquer the windings.

There's no limit to the variety of lures you can concoct. Blades, bodies, and beads come in all sizes, shapes, and finishes. You can build bodies of brass, plastic, or glass beads, split shot, or keeled sinkers. Plant the lead bodies, leave the others their natural color. For added color and motion you can hang a red plastic blade on a split ring ahead of the treble hook or slip a rubber skirt over the hook.

Where can you buy the materials to make your own lures? Here are a few popular supply houses—their catalogs list everything you'll need:

HERTER'S INC.
Waseca, Minn.

REED TACKLE
Box 390,
Caldwell, N. J.

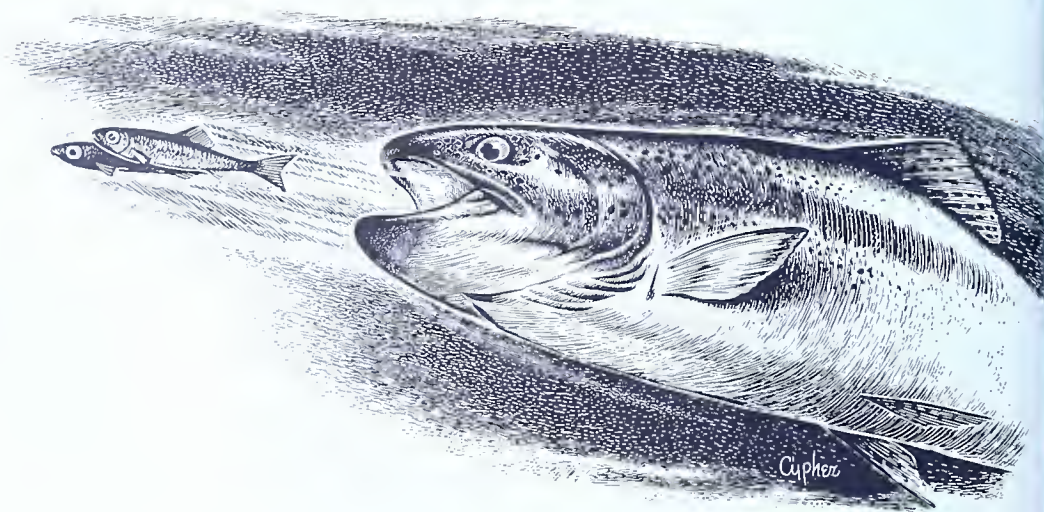
E. HILLE
815 Railway St.,
Williamsport, Pa.

FINNYSports
2665 Monroe St.,
Toledo 6, Ohio.

READY?

FOR A PENNSYLVANIA ANGLER

Fishing Citation?



MINIMUM CITATION SIZES:

Species of Fish	Minimum Length in Inches	Species of Fish	Minimum Length in Inches	Species of Fish	Minimum Length in Inches
American Shad	25 in.	Cattfish	30 in.	Northern Pike	36 in.
Bluegill	11 in.	Crappies (includes black and white)	15 in.	Rainbow Trout	27 in.
Brook Trout	17 in.	Eel	40 in.	Rock Bass	11 in.
Brown Trout	28 in.	Fallfish	18 in.	Sheepshead	25 in.
Bullhead	15 in.	Lake Trout	30 in.	Smallmouth Bass	20 in.
Carp	36 in.	Largemouth Bass	23 in.	Walleye	30 in.
Chain Pickerel	25 in.	Muskellunge	45 in.	Yellow Perch	14 in.

RULES:

Fish must be caught in Pennsylvania public water by legal methods during seasons open for the taking of the species involved.

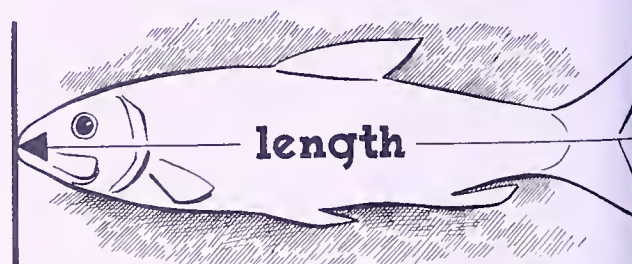
Fish must be measured, weighed and recorded by fishing license issuing agent or tackle store within the state by the owner, manager, or an authorized agent of the respective establishment.

Photographs are desirable as further proof of catch but are not required.

Non-residents as well as residents are eligible for citations if fish are caught under the above conditions.

Only fishing citation applications received within 90 days from date of catch will be honored.

HOW TO MEASURE:



APPLICATION FOR PENNSYLVANIA ANGLER FISHING CITATION

The Editor—Pennsylvania Angler Date.....
Pennsylvania Fish Commission, Harrisburg, Pa.

Please send me the Pennsylvania Angler Magazine's Fishing Citation with the inscribed data listed below:

Name (please print)

Address City.....State.....

Species Length Weight

Type of Tackle

Bait or Lure Used

Where Caught.....in.....County

Date Caught Catch Witnessed by

Measured and Weighed by

At

6
2

Pennsylvania ANGLER



MAY 1966

PENNSYLVANIA FISH COMMISSION DIRECTORY

EXECUTIVE OFFICE

ROBERT J. BIELO
Executive Director

GORDON TREMBLEY
Assistant Executive Director

EDWARD R. THARP
Assistant Executive Director
Watercraft Safety

WARREN W. SINGER
Assistant to Executive Director

PAUL F. O'BRIEN
Administrative Officer

JOHN M. SMITH
Comptroller



DIVISION DIRECTORS

KEEN BUSS
Research and Fish Management
R. D. 1—Box 200-C
Bellefonte, Pa.—16823

HOWARD L. FOX
Propagation and Distribution
Bellefonte, Pa., R. D. 3—16823

GLEN SPENCER
Real Estate
Harrisburg

EDWARD MILLER
Engineering
Bellefonte, Pa., R. D. 3—16823

WILLIAM W. BRITTON
Law Enforcement
Harrisburg

ARTHUR BRADFORD
Pathology
Bellefonte, Pa., R. D. 1—Box 200-C
16823

GEORGE FORREST
Public Relations
Editor
Harrisburg



REGION ONE

S. CARLYLE SHELDON Warden Supervisor
Tionesta 16353 Phone: 814-755-8811

REGION TWO

JOHN I. BUCK Warden Supervisor
R. D. 2, Somerset, Pa. Phone: 814-445-4913

REGION THREE

CLAIR FLEEGER Warden Supervisor
351 Terrace St., Honesdale, Pa.,
Phone: 717-253-3724

REGION FOUR

HAROLD CORBIN Warden Supervisor
R. D. 2, Annville, Pa.,
Phone: 717-273-2601, Ex. 86
I. G. M. R. 17003

Pennsylvania Angler

Published Monthly by the
PENNSYLVANIA FISH COMMISSION
COMMONWEALTH OF PENNSYLVANIA

William W. Scranton, Governor



PENNSYLVANIA FISH COMMISSION

ROBERT M. RANKIN, President Galeton
HOWARD R. HEINY, Vice President Williamsport

GERARD J. ADAMS Hawley	JOHN W. GRENOBLE Carlisle
JOSEPH M. CRITCHFIELD Confluence	DOUGLAS McWILLIAMS Bear Gap
WALLACE C. DEAN Meadville	R. STANLEY SMITH Waynesburg
RAYMOND M. WILLIAMS East Bangor	



MAY, 1966

VOL. 35, NO. 5

Contents

- 1 THOSE MUCH MALIGNED SHAD
- 6 MUSKY MEMORIES
- 8 FISHERMAN'S FAIRWAY—Ray Ovington
- 10 A LITTLE LEADER LORE—Chauncy K. Lively
- 12 FISHING THE JUNCTION WATERS—Jim Hayes
- 13 WHY DO FISH STRIKE?—Albert G. Shimmel
- 14-15 HUSKY MUSKYS FROM '65-'66 CAMPAIGNS
- 16 MODERN CAMPING—Del and Lois Kerr
- 17 PENNSYLVANIA "THE SAFE BOATING STATE"—Edw. R. Tharp, Assistant Executive Director, Watercraft Safety—Penna. Fish Commission
- 18 DIRECTORY OF PENNSYLVANIA MARINAS ACCESS AREAS AND BOAT RENTAL FACILITIES—Robert G. Miller
- 20 NOTES FROM THE STREAMS
- 22 YELLOW BREECHES CLUB PROJECT—Perry D. Heath
- 23 THE ELK COUNTY STORY—Bernard D. Ambrose
- 28 TIP-O-THE-MONTH—C. Boyd Pfeiffer
- 29 SCHOOL'S OUT—Ned Smith

Cover Art by John W. Taylor

POSTMASTER: All 3579 forms to be returned to Dunlap Printing Co., Inc., Cherry and Juniper Sts., Philadelphia, Pa. 19107.

The PENNSYLVANIA ANGLER is published monthly by the Pennsylvania Fish Commission, South Office Building, Harrisburg, Pa. Subscription: One year—\$2.00; three years—\$5.00; 25 cents per single copy. Send check or money order payable to Pennsylvania Fish Commission. DO NOT SEND STAMPS. Individuals sending cash do so at their own risk. Change of address should reach us promptly. Furnish both old and new addresses. Second Class Postage paid at Harrisburg, Pa., and at additional mailing offices.

Neither Publisher nor Editor will assume responsibility for unsolicited manuscripts or illustrations while in their possession or in transit. Permission to reprint will be given provided we receive marked copies and credit is given material or illustrations. Communications pertaining to manuscripts, material or illustrations should be addressed to the Pennsylvania Fish Commission, Harrisburg, Pa. NOTICE: Subscriptions received and processed the 10th of each month will begin with the second month following.



Those Much Maligned Shad

DURING Colonial days the shad penetrated almost to the limits of all branches of the Susquehanna. When the Connecticut settlers came into the Wyoming Valley and settled from Wyoming Point to Athens, each neighborhood established a fishery for its own accommodation. For a long time the chief food of the settlers was taken from the River Susquehanna. During the Pennamite war, between the Connecticut settlers and the followers of William Penn, the former subsisted almost altogether on the fish caught, and in 1784 one of their bitter complaints was that the Pennamites destroyed their nets.

After the close of the war for Independence, close attention was given the development of the Susquehanna fisheries, and they quickly became of great value and industrial importance. On account of both the Revolution and the Pennamite War, there were so many widows and orphans that the fishermen established the "Widows Haul." On the first Sunday after the shad fishing was commenced, every fish taken was given to the widows. In one of these annual "Widows Hauls" it is given on good authority, that at the Stewart fishery along, about midway between Wilkes-Barre and Plymouth, ten thousand shad were caught and turned over to the fund.

Riparian rights in the fisheries were recognized even in the early days of the Commonwealth, and no person was allowed to operate a fishery without the consent of the owner and on the payment of a rental. The rental was generally one-half the catch.

According to the Wyoming Historical and Geological



Society, through a paper by its Committee with Harrison Wright as Chairman published May 27, 1881, in the U. S. Fish Commission Reports, there were some 40 permanent fisheries on the North Branch of the Susquehanna between Northumberland and Towanda, before the erection of dams. These fisheries at the beginning of the 18th Century were said to net some \$12,000 a year. It is said to have been a common occurrence to take 300 shad at a single haul. The average price received for each shad was 12½ cents, and many fisheries were said to be worth about \$1,000 a year. The lowest price was four pence for the smallest and 25 cents for the largest. In times of great abundance, of course, prices might rule lower. According to reports, on April 21, 1778, shad sold for six pence each. "A bushel of salt would at one time bring a hundred shad."

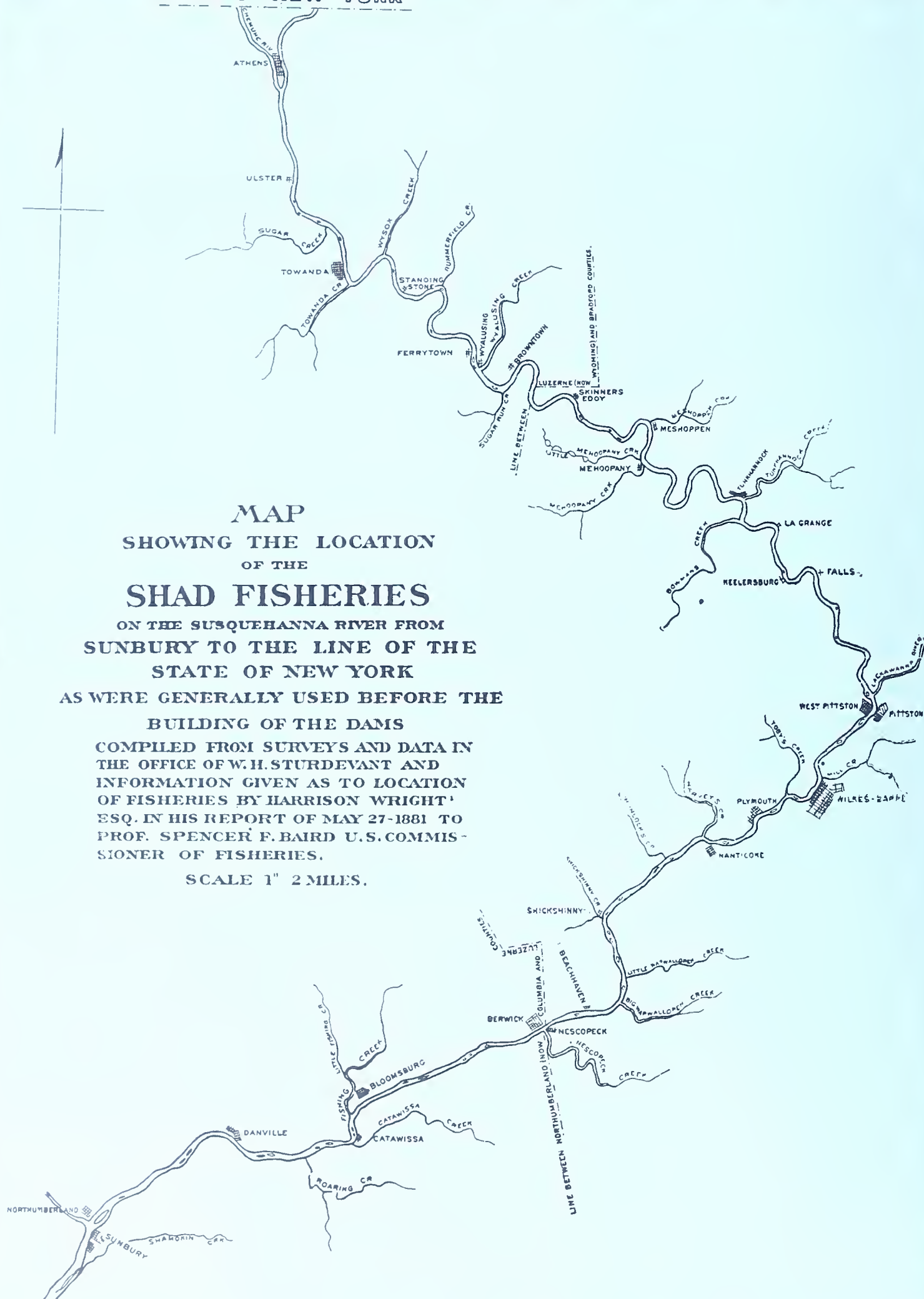
Shad were frequently used as barter for other goods. Twenty barrels of shad were traded for a Durham cow. One shad was worth a pound of sugar.

STATE OF NEW YORK



MAP
SHOWING THE LOCATION
OF THE
SHAD FISHERIES
ON THE SUSQUEHANNA RIVER FROM
SUNBURY TO THE LINE OF THE
STATE OF NEW YORK
AS WERE GENERALLY USED BEFORE THE
BUILDING OF THE DAMS
COMPILED FROM SURVEYS AND DATA IN
THE OFFICE OF W.H. STURDEVANT AND
INFORMATION GIVEN AS TO LOCATION
OF FISHERIES BY HARRISON WRIGHT
ESQ. IN HIS REPORT OF MAY 27-1881 TO
PROF. SPENCER F. BAIRD U.S. COMMIS-
SIONER OF FISHERIES.

SCALE 1" 2 MILES.





SHAD GILL NETS at night on the Delaware.

After about 1830, construction of canals and dams started to interfere with the free movement of the shad up the river and the catches began to dwindle. They were still taken in considerable numbers, however, until about 1870.

The early dams on the North and West Branches were constructed to provide water supplies for the canals. These dams had "chutes" in mid-stream so that timber rafts could move downriver without difficulty. The shad could migrate up through these chutes when the water was high in the Springtime because the water levels at this time of the year were practically the same above as below. However, the construction of solid concrete dams at Safe Harbor and other sites on the main stream ended the migration of these fish.

The shad fisheries of the Susquehanna were already on the downward trend in 1866, not only because of the dams, but also because of pollution and destructive fishing.*

Pennsylvania appointed Mr. James Worrall, of Harrisburg, as Commissioner of Fisheries to investigate the extent of the trouble and report on the best method of restoring the fishing interests. His appointment was the result of a convention held in Harrisburg in the early part of 1866. A law was drawn up and promptly passed by the Legislature and signed by the Governor on March 30, 1866.

The Columbian Dam, which belonged to the Tide Water Canal Company was erected in 1830. Other dams were put up above and below this dam as feeders to the canals along the Susquehanna. The Canal Company was bound

to keep an open passage for fish in its dam, but for many years it failed to carry out this portion of its duty.

After his appointment Mr. Worrall notified the corporation to fulfill its obligations and met with a prompt and affirmative response and an opening was immediately made in the dam by the company at a cost of some five thousand dollars. With some of the other companies, however, Mr. Worrall met with opposition. The State began a suit against the companies and a long and bitter legal battle was waged which lasted about four years. The court decided against the State, and the fight was then taken to the Supreme Court, but they affirmed the opinion of the lower court.

The result of the opening at Columbia for the first two years appeared to be a complete success. However, the catch fell off and it was soon recognized that this fishway was a failure and it was abandoned. Despite the fact that this first effort to restore the Susquehanna fisheries was thought to be a failure there were enough elements of success to give encouragement, and an act was passed and signed on April 29, 1873 providing for the establishment of a Fish Commission of three persons in order that the work of restoration might be more systematically carried out.

The new Commission made a very careful study of the situation and came to the conclusion that the deterioration was due mainly to the following causes: (1) The practice of fishing with drift nets in the lower portions of the rivers. (2) The "close time" or the time during which fishing is forbidden in the rivers not being sufficiently long and not being observed. (3) The destruction of the young, when returning to the sea, by fish baskets.

The annual supply of shad depended, of course, upon

* Fish wiers and baskets and other deadly devices were used for capturing shad from the earliest coming of the whitemen.



FISHWAY in dam on Juniata at Warrior's Ridge.



FISHWAY in Susquehanna River dam, at Clark's Ferry, Pa., showing top before completion.



FISHWAY in Lanesboro Dam, North Branch, Susquehanna River, showing crib still in place.



ROGER'S FISHWAY—Lackawaxen Dam, Delaware River.



FISHWAY, Venango River, Franklin, finished, built 1904.



FISHWAY, Venango River, top showing braces and bulkhead



NEW FISHWAY in the Susquehanna River at Holtwood.

the ability of the shad to reach proper places for the deposit and hatching of their eggs. In their journey upstream they met net after net thrown across the channel for their capture. The "close time" began at midnight on Saturday of each and every week during the fishing season and continued until midnight Sunday.

The efforts of the new Commission were first bent in having the fish baskets removed, but they met a serious legal difficulty. There was a peculiar construction of the law which required that ten days' notice be given by the sheriff before proceeding with a posse comitatus to destroy the basket. The Commission therefore recommended that the law be changed, and the Legislature adopted their recommendation.

It was soon made manifest that the chief reliance in reviving the shad fisheries must be by artificial propagation. A few years before, Mr. Seth Green, a distinguished fish culturist from New York, had invented and patented a hatching box. The Commissioners contacted Mr. Green and made arrangements to purchase the right to use his hatching boxes for three years in the State of Pennsylvania for the sum of \$2,000.

The point of operation was established at Newport in Perry County and in 1873 Mr. Bham, one of Mr. Green's assistants, who was in charge, succeeded in turning into the Susquehanna, at Newport, 2,700,000 young shad.

In addition to their work in shad hatching, the Commissioners continued to struggle with the problem of perfect fishways and in the fall of 1873, completed one in the Columbia dam which they believed would prove successful. However, in their report for 1874 they said "our fishway, as it stood in 1874, was operative in a high stage of water; we are just as firmly convinced that during a low stage our fishway was inoperative and inefficient."

In 1879 the Fish Commission was enlarged by the addition of three members and the legislature at the same time authorized the Commission to extend the experiment of fishways in the Columbia Dam.

In 1881, beyond a few attentions to the fishways already in the dams, nothing was done in this important matter. The hands of the commissioners were tied due to lack of funds and they could do little more than make repairs to existing structures.

In 1883, there was a change in the makeup of the Commission, and to these gentlemen we can give the credit for introducing the most successful fishway thus far. For two years or more they studied various models submitted, and then their attention was drawn to the Rogers "ladder," a Nova Scotia invention. Mr. Rogers agreed to erect one of his ladders in the Columbia Dam at his own expense, and waived all claims for pay until it was satisfactorily demonstrated that shad in reasonable numbers would ascend the "ladder."

The Rogers' fishway successfully withstood the great ice freshets, and every season the shad passed through them with great freedom. The work of getting rid of the fish baskets also seemed to have made some progress.

The Report of 1896 states "so perfectly are all the requirements met, and so completely has Mr. Rogers overcome the many heretofore existing difficulties, that there is nothing further to be desired in a fishway."

However, the Report of 1904 states "The shad is an exceedingly timid fish and experience has shown that all fishways hitherto placed in dams seem to be regarded by shad as traps and they do not ascend them freely."

By 1908 the commercial fisheries of the Susquehanna were so small as to be scarcely worth considering.

The Report of 1913 states, "The question of fishways which fish will go up has received much consideration, especially the one at the dam of the Pennsylvania Water and Power Company in the Susquehanna River at Holtwood. The Cail fishway placed in the dam has proved of no value and after personal visitation to the place the Commission was of the opinion that a natural waterway from the dam down to the river on the York County side would accomplish results better than anything yet devised.

The Power Company, at much expense, has installed this fishway and it certainly looks as if it would do the work. Time, however, can only prove this."

According to the Report of 1916, "The erection of a practical fishway for the ascension of the shad . . . has received considerable attention by this Department . . . and is still one of the 'unsolved problems' of the age."

A report by Dr. R. E. Coker of the United States Bureau of Fisheries in 1916 gives some of the reasons for the decline of the shad in the Susquehanna—"over-fishing, disturbance of the original condition of stream flow; and pollution. In part, also, to the obstruction of the river by a dam which has caused the fishery in the river above the dam to cease."

Although the early fishways in the Susquehanna River were not successful, fish passage devices were later installed in dams on major western rivers and seemed to be doing a job.

In the late months of 1959, the Pennsylvania Fish Commission decided to do something about returning shad to the Susquehanna. The Commission contacted two leading experts in the field to see what could be done. Harlan B. Holmes, of Portland, Oregon and Milo C. Bell, of Mukilteo, Washington, both experts in their fields were retained by the Commission to prepare a survey on the feasibility of fishways around the dams on the Susquehanna River.

In August, 1962, the survey team presented their report to the Commission, which included cost estimates, plans and specifications for alternate means of fish passage and biological factors to be considered.

The Commission also joined the Department of the Interior and the States of New York and Maryland in a joint study to determine the advisability of constructing fishways on the Susquehanna.

This study proved that shad can hatch and survive in the Susquehanna River despite present day factors, including pollution.

The October, 1965 issue of the "ANGLER" carried an up-to-date report of this survey.

Further tests will be carried out, and perhaps in the near future, shad fishing in the Susquehanna will again be a reality, rather than just a memory.

From Reports of State Commissioner of Fisheries 1892-93-94; 1896, 1904, 1906, 1908, 1913, 1916.

MUSKY MEMORIES

A MUSKELLUNGE program is not new in Pennsylvania. The propagation and stocking of fry dates to the nineteenth century. In 1894, fifteen large muskellunge were stocked and in 1896 and 1897, 91,000 fry were planted from the Western Hatchery.

The Commission's Report for the year 1899 states, "A few years ago, the Commission began the experiment of planting muscullonge in the Susquehanna River. Within the last year or two a few of these fish have been taken, enough to give encouragement that they may be established eventually, if planting can be persisted in. Unfortunately, the chief difficulty in the way is the securing of eggs or a few mature fish for breeding purposes."

In 1905, the Report contained the following item—"There are many anglers in Pennsylvania who have been urging the Department to take up the culture of muscullonge. . . . There was some apprehension on the part of the Department as to the wisdom of a general introduction of the muscullonge, because of its well known voracious habits. It is a huge fish, sometimes reaching a weight of 100 pounds, and its ordinary weight is from 15 to 30 pounds."

"There are comparatively few waters in the eastern part of Pennsylvania in which it would be proper to in-



NETTING SHAD on the Susquehanna.

CEREMONIES AND RITES to hail the first shad catch. Top hat and derbys add class to the gathering.



roduce the fish. The muscallonge requires a large body of water and an immense amount of food. In the western part of the State, especially in Conneaut Lake, Conneauttee, Lake LeBouef and other lakes in Western Pennsylvania, a species of the muscallonge known as the Chataqua muscallonge is found in some quantities, but not sufficiently so to gather eggs from."

The 1906 report had the following reference to muskellunge, "Although there are many mountain lakes in northeastern Pennsylvania, none of them contain muscallonge, with the possible exception of one, namely, Lake Ariel, in Wayne County. Thus far there is no positive evidence that this great and noble game fish is even in Ariel, but there is reason to believe that some exist having been planted there several years ago through the late S. B. Stilwell, of Scranton, then President of the State Fish Commission. Last spring several fish were reported to have been caught which were claimed to be muscallonge. Unfortunately, none of the specimens were sent to this office, or to any of the well known muscallonge fishermen in the state. The alleged catch was reported to me by the Hon. Frederick W. Fleitz, and while he had not seen the fish himself was assured from the description that they were muscallonge, and I have perfect confidence in his judgment and knowledge of this particular species of fish.

"But while the northeastern lakes seem to be barren of muscallonge the natural ponds in the western part of Pennsylvania and many of the larger streams in that section of the state contain them. . . . The Shenango river, the Conewango creek and a number of other streams contain large numbers of these fish. Every year quite a number are caught. . . . There is every reason to believe that on account of the activity of the wardens in the western part of the state in enforcing the fish laws, the muscallonge will soon be nearly as abundant as they were a few years ago. One angler informed me that as many as a half dozen fish averaging six to eight pounds have been caught in a single day from some of the streams, although he admitted that an angler might troll for a week without getting any.

"There are comparatively few lakes in northeastern Pennsylvania in which they should be planted or would be well if they were planted, but I believe without reservation that the western lakes in which they now exist should be stocked. With this end in view I have been endeavoring to secure eggs from other states with the idea of getting a large supply in two prominent bodies, notably Conneaut and Conneauttee Lakes. Last spring I received several thousand eggs from the Bemus Point hatchery on Chataqua Lake. The bulk of the young fish hatched I planted in Conneaut and LaBouef. One thousand were planted in a pond at the Corry hatchery in the endeavor to rear them to maturity. I had very little hopes of doing it, for all previous efforts in this respect in other states have proved abortive owing to the voracious character of the fish. My fears proved to be well founded. As soon as the little muscallonge were large enough to use their mouths, they began devouring each other until at the end of three months there was just one fish left and a King fisher caught him."



A SPECIMEN of Muscallonge at Conneaut Lake.

In 1912 the Commission obtained a supply of five hundred thousand muscallonge eggs from the New York Conservation Commission which were successfully hatched at the Union City station in Erie County. The muscallonge were planted in Lake Erie, Conneaut Lake and two or three other lakes in the western part of the State where they had previously existed.

This planting was supplemented by a second planting in 1913 which were again placed in western lakes where muscallonge were natural inhabitants. Very encouraging reports came from those sections as to the thriving of the planted fish.

The Report for 1913 states that "under no circumstances will the Department introduce the muscallonge into waters east of the Allegheny Mountains."

The Commission Reports contain very little mention of the muskellunge until 1953 when the report stated, "For the first time in the history of the Commission, we launched a program for hatching and propagating muskellunge. Thousands of Pennsylvanians travel to Canada each year to fish for this exceptional game fish, and we believe this annual trek may not be necessary if we can succeed in providing the same type of fishing in our Commonwealth."

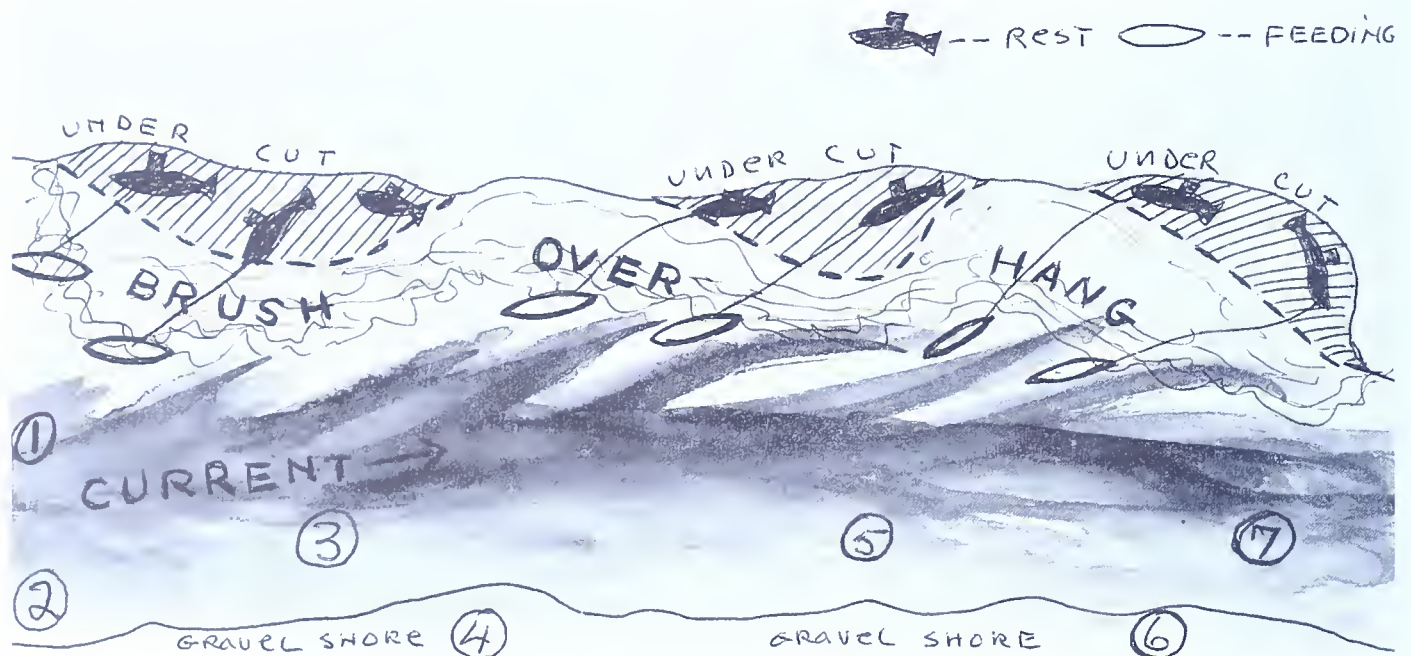
FISHERMAN'S FAIRWAY

By RAY OVINGTON

. . . A step-by-step, cast-by-cast approach to some basic angling situations on a trout stream.

Take a typical medium sized trout stream. Divide it into distinct fairways, much the same as the golf course. Pick it apart, study it and then fish it. Then detail the strategy over the basic seasonal changes. The variance of water heights and temperatures vary and so affect the places where the trout lie and feed.

This is the second of a series of (twelve) diagrams where the author takes us through the water with explanations of the conditions to look for and how to fish it.



UNDERCUT AND BRUSHLINED BANK

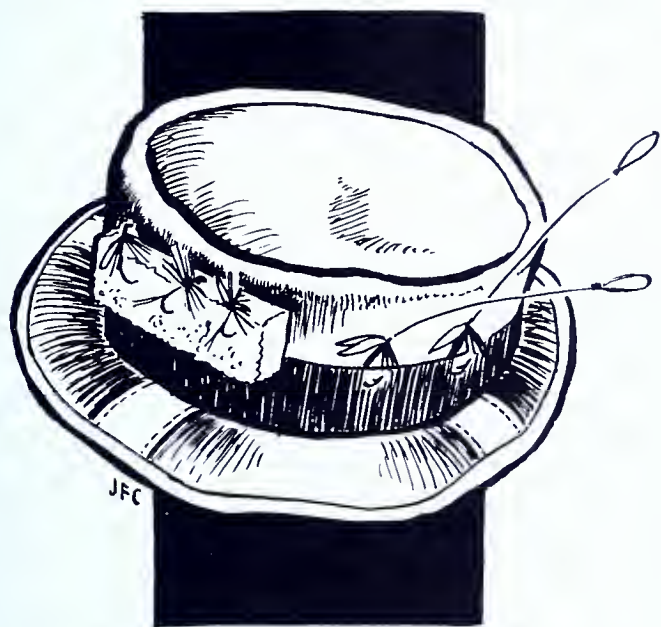
MOST trout streams, other than those that have been washed away from their banks by repeated and devastating torrents contain countless samples of this kind of fishing fairway problem. Anglers habitually fish these spots in the wrong manner and from bad angles mainly because they are afraid of becoming snagged. Worse still, they skip them altogether. They have not figured the angles properly in their haste; their lures and flies do not act naturally even when the caster is lucky enough to have placed them in the right positions without having them become hung up.

In the early spring, before the leaves are out and the water level lower, it is difficult to fish them. Later, the undercut is more exposed and the leaves are out presenting another kind of challenge. We've dreamed up a particularly tough one for you here, but it is a potent one where some big trout lie.

One of the reasons of its potency is that this kind of stream edge and bank is a haven for insect life. The nymphs of clamboring and mudliving mayfly and other insects live and develop here in the protected backwaters. When they hatch, they fly to the immediate brush to shed

their dun skins. Caddis flies pop out of the water to the overhangs and are brushed into the water by the breeze. Also, drifting insects, either aquatic or land bred, thrive in the coolness of the banks. Worms and grubs are washed in during the rains and early spring thaws. Those insects that fly by night congregate in the brush above the water and drop in to further feed the trout.

Minnows love this type of location, and you'll see how to fish a bucktail in this situation later.



Let's try the early season first. The spincaster has the edge over the fly fisherman in that he can spot cast a medium weight lure right in under the brush and beneath the lip of the overhang. He might get snagged in trying, but the results of a good throw are worth the risk. The fly fisherman has to master the side cast or the roll cast in order to skirt the brush and place his flies under and then quickly throw a loop of additional line so that the current will not work against him and pull the line and flies away from the hot spot before they have been seen by the trout.

Let's start the fly fisherman out at position (1). It is, say, a thirty foot cast from the position (3) or (5) to the undercuts on the far bank. The best time to fish this is when the bank is in shadow. This means that the angler will be in bright light out there in the open and should therefore move slowly so as not to drive the fish farther into their hideouts, or, worse, still, send them to the cover of the midstream deep current.

He is wading in the shallow part of the stream and gets as close as he can without invading the deep water. The undercut bank is perhaps one to two feet above the water at high spring levels and the brush is low, the willows and alders sometimes dragging in the water collecting leaves and refuse for the trout to hide under. If he casts straight to the target he'll have a very very few feet of drift before the center current of the deep pulls the line and jerks his flies away. He has to throw an upstream bend in the line immediately after the initial cast to form a wide loop above the fly which will be

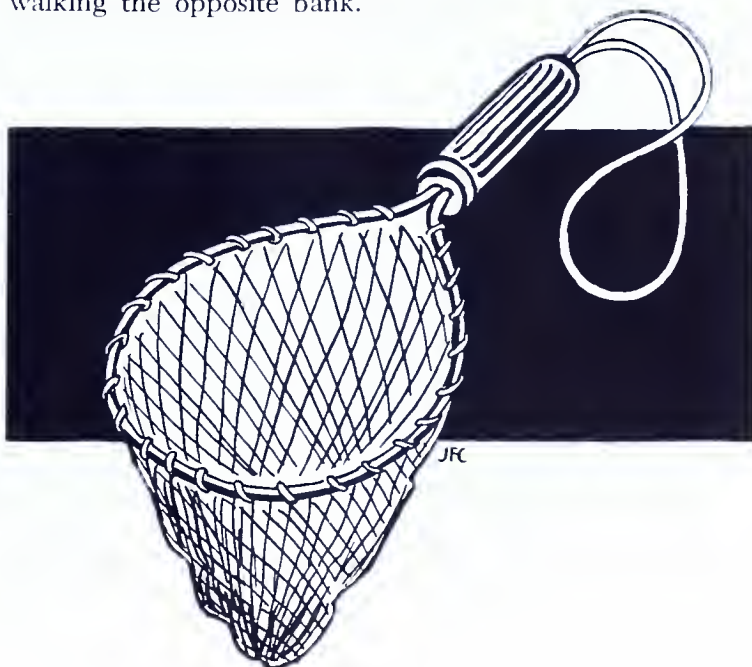
absorbed by the current as the flies drift swiftly in under the bank. He picks a spot between the worst of the brush to land his fly. He gradually works down from (1) to (3) working into the holes as best he can as described above.

His best chances on this fairway will be from position (3) to (5) and the biggest stretch of the overhang. Without the mastery of the spot cast usually done sideways and then the quick throwing of the additional line, he'll have trouble. It is best to aim upstream from his position rather than fish on an angle downstream since the former will allow more drift time for the line. He can fish this stretch with either wet or dry flies. Bucktails are also often very good fish finders in this type of water and can be cast just under the brush, not necessarily way in under and then allowed to merely drift down and across. Quite often they will pull a rise from a trout that has his lair deep in the shadows.

The spincaster, working this same water will have to employ the side cast and finds that angling slightly upstream will also be of help to him in order to allow the lure to drift in the current where it counts for a longer stretch of coverage. It is not as necessary for him to place his lures as far in as the fly would have to go to be effective. Quite often a fish will dart out from cover to a well drifted, slowly revolving spinner or spoon.

Later in the season when the water level is down, the fly fisherman will have an easier time than the spincaster since there will be a bigger space between the water surface and the overhanging brush of the bank. He can slide his flies in under, easier, since he'll be able to wade closer and make shorter side casts. The spincaster will have less depth to save him from snagging the bottom and will have to retrieve more quickly in a given area and recast more in order to cover the hotspot thoroughly.

Time may be lost in snags. Lures and flies will get hung up on this fairway, but one good trout by either method will be worth the trouble. The fly fisherman should use short heavy leaders and very light tippets. The spincaster should use a fine line between his running line and the lure in case of a hangup. Retrieve the lost lures later by walking the opposite bank.



A Little Leader Lore

By **CHAUNCY K. LIVELY**

Photos by author

THERE is a growing trend among trout fishermen toward the use of short, light fly rods, many of which are seven feet or shorter. The little rods are pleasant to use and allow a hooked trout to give a good account of himself. At the same time, more and more fishermen are finding it to their advantage to use longer leaders than were in vogue a few years ago, due mainly to the efficiency of modern leader design and to the perfection of present-day leader materials. But the combination of short rod and long leader presents the problem of finding a smooth line-to-leader connection that will move unhindered through the rod's guides while a fish is being netted.

The old line-leader knot and the interlocking loop jointure are both strong connections but the increased diameter of the ends of the new floating lines make the use of these a lumpy proposition. The nail knot makes a good connection but many fishermen find it difficult to tie, particularly when stiff, heavy nylon is used as leader-butt material.

The best compromise I've found to date is a super-smooth connection made possible by the powerful epoxy adhesives. Is it strong? I've been using it for two seasons of continuous fly rod fishing, both heavy and light, and have never had one let go.

The crucial test came last summer when I was bass-bugging Canadohta Lake on a coal-black night. I heard a big bass splash back in the lily pads, and taking a chance that my bug wouldn't hang up in the clutter, I let fly in the direction of the sound. As luck would have it, the big hook of the popper wound itself around one of those unbreakable stems that water lilies seem to have and I

found myself firmly hung up. Not wanting to disturb the bass in the pocket, I decided to break off the bug and start again. But I hadn't reckoned with the strength of the stout leader tippet and when I pulled on the line I only towed the boat toward the anchored bug. I finally pulled the boat to the bug and extricated it, but the bass was long gone when I arrived.

The satisfying aspect of the whole incident was the firmness with which the epoxy line-leader joint held. I think it could have towed a battleship with no ill effect.

For good casting performance a leader should be designed with a relatively long butt section of sufficient diameter to transmit the energy of the cast smoothly from the line to the fly. The new limp nylon and platyl both make fine tippet material because of their great strength for diameter. But if you can find the old type of stiff nylon in heavy sizes you will have the best possible material for leader butts.

The two leader designs shown below are good starting points for both trout fly fishing and bass bugging. Both taper rapidly from the long, heavy butt to the tippet, insuring good turnover of the cast. After the knots are tied both leaders will measure between eight and nine feet but they can be lengthened or shortened as desired by varying the length of the sections below the butt to suit. Finer tippets may be added but care should be taken to avoid a step-down of over 1/1,000" for each section under .007".

If you are not satisfied with the leaders you are using, give these a try and attach them to your lines with the epoxy line-leader joint shown in the photo-illustrations.



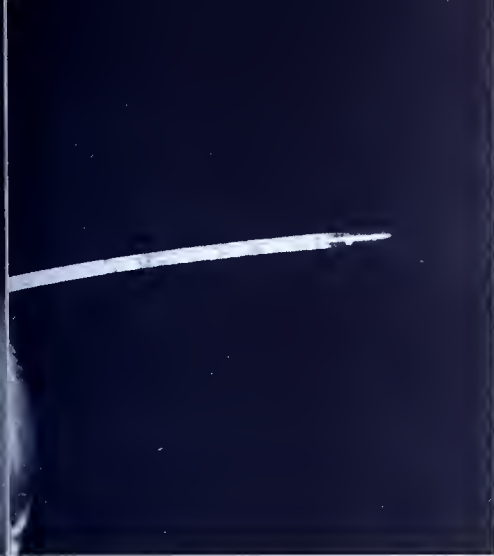
INSERT THE POINT of a large needle into the end of the fly line, making a hollow core to a depth of about 1/4".



WITH A RAZOR BLADE, cut the end of the leader butt to a sharp point.



WITH A NOT-TOO-SHARP knife blade, lightly score end of leader like the threads of a screw, roughening the smooth nylon surface for about 3/8".



POINTED END of leader butt should look like



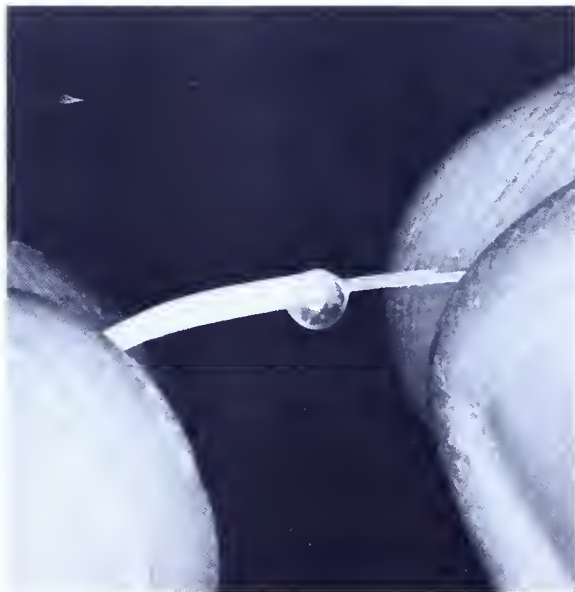
USE EPOXY GLUE according to manufacturer's instructions. If two-tube epoxy is used, squeeze on equal amount from each tube on a scrap of cardboard.



MIX EPOXY thoroughly with a needle or match stick.



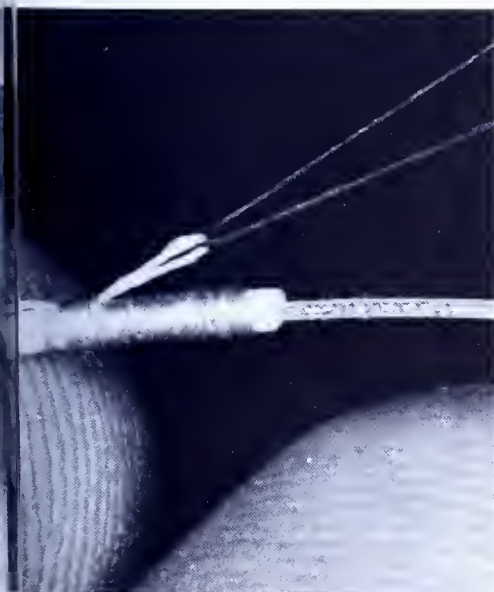
WITH A BLUNT-END NEEDLE, force epoxy into core of line. Repeat until core is filled.



DIP POINTED END of leader in epoxy and insert into end of line.



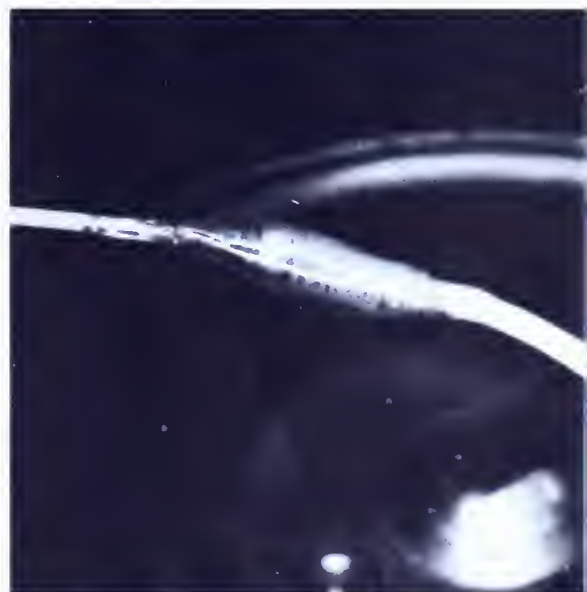
GRASPING FLY LINE close to its end, shove leader in as far as it will go. Wipe off excess glue.



WITH STOUT TYING THREAD, make a close wrap about 1/4" long over inserted leader. Make winding as tight as possible, pulling inside of line to bite into the rough sections on leader. Complete winding with a finish.



WITH BODKIN POINT or needle, make a bead of epoxy, covering wrapped end of line and extending onto leader butt. Hang up to dry overnight, allowing line-end and leader to hang vertically.



COMPLETED EPOXY JOINT—strong, smooth and easy to make.

Fishing the Junction Waters

By JIM HAYES

FREESTONE trout streams are born of humble origin, grow to maturity, and plunge on to lose their identities in larger waterways. There is much to be learned by tracing a stream back to its place of birth, to that first welling up of water. Until you have seen with your own eyes where the uppermost brooklets join together to form the mainstream, you can't really say you know a stream. But for my fishing pleasure, give me a mild evening in mid-May or early June, a steady hatch of flies, and the junction water at the mouth of the stream.

Junction water, where one stream comes into another, has always intrigued me. Fishing such water is like reading the final chapter in a good book. For the smaller stream, whose name is "writ in water," it is the end of life, or at least of its distinct identity. For the larger stream, gathering added volume, it is a step toward maturity. And for the angler, the confluence often means the best fishing spot on either stream.

It is well known that Indians often selected stream junctions for their villages and camping grounds. One reason, I suspect, was because such waters abounded in fish. That was definitely the reason for the encampment on the Allegheny River at the mouth of Kinzua Creek, as the road sign told us before the floodgates closed on the giant Kinzua Dam.

Why is it that fish almost instinctively tend to gather at stream junctions? The fact that they have for their use two distinct watershed systems, and can easily move from one stream into another, probably has something to do with it. Trout of course, do a great deal of traveling, both upstream and down. It may be that the branching off places, where one stream joins another, are staging areas for their travels. It is well known that steelhead and salmon assemble in offshore staging areas before making their runs.

In the instances of smaller streams emptying into larger streams, differences in water temperature may be a factor. Small streams tend to be less affected by air temperatures than larger streams, which are more spread out to the air and sun. They often run somewhat warmer in cold weather, and invariably cooler during the hot summer months. The habit of trout of gathering at the mouths of cold-flowing tributaries to seek relief from high water temperatures in the mainstreams is fairly well known.

One stretch of junction water that I have always liked, especially early in the season, is The Point at Wharton, where East Fork comes into the First Fork. This is mostly fast water and broken riffles, tough to fish but perfect for the wet fly fishermen. At certain times of the year, it is a good spot to fish for large brown trout which have worked their way upstream on their way into the East Fork.

"Where can I fish for a really big trout?" This is a question I hear from many fishermen. There are two

places, both stretches of junction water, that I can recommend with absolute certainty. One of them is the deep pool where Lyman Run comes into the West Branch of Pine Creek. The other is the fast water ripping alongside the rock overhang on Pine Creek just below the mouth of Cedar Run.

Over the years, these two places have consistently produced brown trout in the four to six pound class. As quickly as one large trout is caught out, another lunker moves in to take its place. Of course, knowing that they are there is one matter. Hooking and landing one may be quite another.

Downstream from Cedar Run, the stretch where Slate Run empties into Pine Creek is the kind of water that fly fishermen dream about. This is flat, fast moving water, open and easy to wade, so you can throw a long line. If the trout aren't rising in Pine Creek, you can always cast your way up Slate Run. Without doubt, this fly-fishing-only stream is the prettiest mountain stream, and one of the most productive, in the entire northeast.

Another stream that I fish regularly is Big Brokenstraw Creek in Warren County. There are some stunning stretches of water between Pittsfield and Columbus. I'd always wanted to fish the junction where Brokenstraw flows into the Allegheny River, but it was always too late after I finished casting the upper water.

One afternoon last June, when the action tapered off, I drove down to Buckaloons Recreation Area and walked to the mouth of Brokenstraw. It was totally unlike the stream I knew. Unlike the swift, rocky water above, Brokenstraw spreads over wide, deep, mud-bottom flats as it nears the river. Toppled trees and root snags provide perfect hideouts for big pike, muskie, and trout. At the time of my visit, a sucker fisherman, casting a gob of worms into the Allegheny, had just wrestled ashore a brown trout that looked to be just under the four pound mark.

Have you ever fished that lovely pool where Windfall Run empties into Cross Fork? Windfall is a fast-falling, icy-cold little mountain brook, scarcely two jumps wide, but with fat brookies in some of its pools. Cross Fork is a project stream, restricted to fly fishing. The mainstream, after coming around a sharp bend, sweeps close alongside a half-toppled tree, then deepens and spreads into a long, chest-deep pool overhung with willows on the far bank. The last time I was there, trout were dimpling the surface as far as the eye could see.

Have you ever fished the flats where Salmon Creek comes into Tionesta Creek? Or those fast riffles where Tionesta sweeps past the mouth of Blue Jay? Or where Sugar Creek empties into French Creek? If not, you've got a lot of really great fishing ahead of you. Next time, try the junction water first, and then discover the rest of the stream.

Why do Fish **STRIKE**?

By **ALBERT G. SHIMMEL**

IT LAY far off the beaten track. A picture pool, clear, cold water, three foot depth and inhabited by at least a dozen native trout. Best of all, a huge pine log, firmly imbedded in the bank extended just above the water to the center of the pool furnished a perfect observation point. Each time I visited the spot I spent some time lying prone on the log, watching the behavior of the trout.

At my first appearance they milled wildly, hiding under the bank and even burrowing under the sodden leaves that formed a drift heap beside the central current. Given time they gradually resumed their original stations. Each movement on my part sent them scurrying for cover but the recovery to normal took less and less time until finally I was accepted as harmless and totally ignored. I could even move without causing more than a few seconds of apprehension.

It was there that I learned that there is a certain social order among trout. The largest trout in the pool occupied the best lie. The poorer spots were occupied by lesser trout according to size. Small trout occupied the shallows at the tail of the pool except for the time when a swarm of female flies dipped to deposit their eggs. The largest trout, about fourteen inches long then took this position and held it as long as the food was abundant. The others moved aside and chose less favored spots. If they did not move promptly he rushed at them, shouldering them aside with every appearance of anger.

When not feeding this fish rested in the center of the pool beside a rock. Others kept clear of this spot.

One day, after completing my fishing on the lower pools I walked up to this spot to spend an hour observing. I had been using a small nymph and not caring to dismantle the rod I simply reeled line and leader until the nymph was protected by the tip.

I was curious about whether the trout could be forced to leave his chosen lie. After a while I lowered the rod tip and gently pushed him away from his resting place. I moved him barely a foot when he swam back to his former position. Patiently I pushed him away and again he came back. This was repeated at least a dozen times when suddenly he turned, seized the rod tip in his mouth and shook it vigorously. He was scratched by the nymph but immediately freed himself and returned to the attack. Two days later I repeated the experiment, sans fly. He again lost patience under repeated proddings and attacked the rod tip. This was his property. . . . He was protecting it. . . . He was angry. . . . Timid trout?

The lake is high, sand springs feed it and it warms slowly. The season for pickerel and pike is open while the bass are still on the spawning beds. One morning as I rowed leisurely along the edge of a cove that bordered

a sand spit a bass struck the blade of the oar with such force as to startle me. The bass had a nest near a mat of lily stems and was decidedly pugnacious. Experimentally I dipped the oar again, with the same decided result. This basic evidence seems to refute the fact that only man feels the property protecting instinct.

For two summers a huge brown trout lay beside a grass tuft in the center of a famous limestone stream. An angler friend discovered the trout and made his capture an obsession. One day he saw the big fellow drive away a smaller trout that drifted into the area. This gave the angler an idea. He constructed a huge tandem streamer that measured more than nine inches in length. Late one afternoon he drifted this monstrosity into the big trout's den. Result, a trophy that weighed more than five pounds.

When trout are lazy and difficult to please I rig a streamer at the tip of my leader with a nymph or a wet fly for a dropper. It brings action at times when conventional methods fail. A doctor friend for whom I demonstrated this method adopted it exclusively. When I asked why he gave me this thinking . . .

"If a trout is not particularly hungry he will not move for food even though he sees it floating by but when he sees another small fish about to collect some of his dinner he is just greedy enough to decide to give it a ride." That is the first time I ever heard of a trout being psychoanalyzed.

Play is commonly observed among animals. Do fish play? I once knew a bass that lived in a pocket at the base of a cliff. A small popper, tossed into this area produced an amazing response. He flipped it into the air and repeated this action each time it fell into the water for considerable time. I experimented on various occasions during the summer and the response was always the same. Finally one of the sharp trebles caught on the outside of his nose. I released him after he fought well but never again did he repeat the performance. Perhaps he took up residence elsewhere or maybe ended his career in a frying pan. . . . Chagrin. . . . Perhaps.

What angler has not hooked a trout in the tail or belly when it rose in apparent play? We are sure the motive for the rise is not hunger. Could it in fact be play?

Of the weird offerings to be found in the angler's tackle box and the uncounted numbers that are offered for sale we must conclude that both fish and anglers have a well developed bump of curiosity. Granted that natural and imitations of natural foods prove extremely taking at times, but the odd, outlandish creation brings success when the natural imitations prove ineffective. A lure must have both fish and angler appeal. Some excellent lures have been discontinued by their manufacturer because they did not produce up to the sales potential. To be blunt, the fish liked them but the angler did not. Perhaps someone failed in sales promotion or a new generation of anglers did not buy because they considered them old fashioned.

Does a fish strike from . . . hunger . . . anger . . . curiosity . . . defense of territory . . . playfulness or shall we lay the blame on reflex action controlled by instinct? A study of these problems might be more interesting than fishing. Who knows?



HUSKY MUSKY



It took thirty-five minutes for Mike Lis of Hopewell Township, Beaver County to land this 40-inch musky from the Allegheny River, three miles below Kennerdell, on November 7. Mike was using a No. 4 hook, 8 lb. test line and nylon leader and landed the whopper while fishing from an anchored boat.

—Photo by Pete Sabella, courtesy Beaver County Times



MAGNIFICENT MUSKIE taken from the Susquehanna River near Falmouth by George Keller of Harrisburg. The fish measured 43 inches in length, had an 18¾-inch girth and weighed 22½ lbs. Keller caught the muskie on a white and red bucktail lure using spinning tackle with six-pound test line.

FROM '65-'66 CAMPAIGNS



HUSKY MUSKY, caught by Michael C. Balog, Conneaut Lake, Pa., while spinning with a red and white spoon at Conneaut Lake, Crawford County. The whopper was 48 inches long, weighed 34 pounds.
—Edward T. Gray Photo



ANOTHER BIG MUSKY, 41-inch, 22 pounder caught by Walter Baumgardner, Columbia, Pa., in the Susquehanna River at Falmouth, Lancaster County. The fish hit a yellow bucktail streamer.
—Columbia Daily News Photo



MUSKIES now showing up in the Selinsgrove area of the Susquehanna River. This one caught by Robert Ludwig, Selinsgrove, Pa. was 34 inches, weighed over 10 pounds.

MODERN

CAMPING

By DEL and LOIS KERR

FOLLOWING the opening of the trout season the 1966 camping season gets underway in state parks and numerous private campgrounds. Many anglers will automatically head for the high, wild mountain country of the northern-tier counties. And for good reason.

For instance, Potter County, "God's Country," offers both excellent fishing throughout its 700 miles of pure mountain streams and plenty of choice spots for campers. The crystal-clear waters of the Allegheny River, Cross Fork Creek, Kettle Creek, Sinnemahoning Creek and many others vie for anglers' attention. And camping in Potter County is an experience in itself.

Lyman Run State Park, off Rt. 6 between Coudersport and Galeton, is well known for its huge browns, rainbow and brook trout from 40-acre Lyman Lake. A 30-site tent and trailer campground is located about a mile from the lake. Superintendent S. D. Kelly reports that thirty additional sites will be constructed in the near future. Due to the fine fishing possibilities, the campground is often filled on mid-season weekends and campers are sometimes turned away.

Ole Bull State Park, 19 miles south of Galeton on Rt. 144, is another favorite of the mountain country. It also contains thirty campsites with a 30-unit overflow area. Little Kettle Creek separates the campground and picnic areas. Supt. Karl Schlentner points out that the main campground is often filled during prime weekends of June, July and August but that campers are seldom turned away. During these same months, the camping area is used to 55% of capacity during the week. Arrival on a Thursday will insure good campsite selection.

Located seven miles north of Emporium, the campground at Sizerville State Park again has thirty sites. Two hundred acres are developed for recreation, although total park area spans 1,320 acres. There are many smaller trout streams in the district. Supt. R. D. Lyon tells us that the campground is not filled to capacity even during mid-season weekends. You can usually find a good site anytime you come. Throughout the week, 35% of the sites are in use.

If you wish to camp in an area where deer and bear are common sights—and still be close to good fishing—try Cherry Springs State Park. It is located on Rt. 44, seven miles south of Lyman Lake. There are many fine mountain streams within a short driving distance of the ten-site campground.

Cherry Springs is noted for its solitude and majestic scenery. Through the week you may well have the entire campground to yourself. If you hear a clatter of garbage cans in the wee hours of the night, don't be alarmed. It will probably be only the clown of the woods, ol' brother bruin, searching for a pre-dawn snack.

Tioga County boasts of three fine state parks, two of which are located amid the splendor of the famous Grand Canyon of Pennsylvania. Colton Point State Park, on the western rim of the Canyon, has 50 of its 540 acres developed for recreation. It contains 28 campsites with an eight-unit overflow area. Nine additional sites are planned for the near future. The tent and trailer campground is filled to 83% on weekends, 50% through the week.

Although offering magnificent views of the Canyon, Leonard Harrison State Park, on the eastern rim, does not draw as many campers as its sister park across the valley. The 30-site campground and 10-unit overflow area are used to 53% capacity during prime weekends, 30% through the week. Swift-flowing Pine Creek, easily accessible from both parks, is well known for its catches of trout and bass. An early spring rubber-raft ride through the treacherous Pine Creek Gorge is not for the timid!

Tioga County's third state park, Hills Creek, is located west of Rt. 15 and north of Rts. 660 and 6. Of the 542 acres, 390 are developed for recreation. There are two separate camping areas at Hills Creek with a total of 60 sites and a 20-unit overflow area. You can usually select a good site by arriving early Friday evening. On weekends, 80% of sites are taken while 30% are used through the week.

Approximately one-half mile from the main campground, the 137-acre lake yields catches of muskellunge, largemouth bass and walleye. Some sites are near shore for benefit of boaters. Later in the summer, when fish sulk during the heat of the day, you can take advantage of the campground's own swimming beach.

And the camping picture is even brighter. At least fourteen private camping areas are now open for business throughout Potter and Tioga Counties. Those who prefer electrical hook-ups, flush-type sanitary facilities and hot showers will find camping in Pennsylvania's north country to their liking!



PENNSYLVANIA "THE SAFE BOATING STATE"

By CDR. EDWARD R. THARP, U.S.C.G. (Ret.)

Following is a short series of articles to be continued for the next three or four issues of the "Angler" prepared by Pennsylvania's Boating Administrator, the Assistant Executive Director, in charge of Watercraft Safety, Pennsylvania Fish Commission.

"NAVIGABLE WATERS OF THE UNITED STATES WITHIN PENNSYLVANIA"

Navigable waters of the United States are determined by Law, Court Decisions, and opinions of appropriate Federal Agencies, such as the U. S. Army Engineers and the U. S. Coast Guard. Where opinions of the Engineers and Coast Guard do not coincide on particular waters, the maximum length covered by an opinion of either agency is shown.

The following alphabetical list of navigable waters of the United States within Pennsylvania is published as a guide for the boating public in complying with Federal and State requirements: (all other waters are considered solely State waters—i.e.—non-navigable and not subject to Federal jurisdiction.)

Allegheny River	Mouth to point where it first crosses Pennsylvania-New York State Line.	Monongahela River	Entire length to West Virginia State Line.
Beaver River	Entire length.	Neshaminy Creek	Mouth to Croyden, Bucks County, Pennsylvania. (4.0 miles)
Cheat River	Mouth to West Virginia State Line.	Ohio River	Entire length in Pennsylvania. (40 miles)
Chester River	Mouth to Chester, Pennsylvania. (1.6 miles)	Pennypack Creek	Mouth to Torresdale, Philadelphia, Pennsylvania. (2.0 miles)
Clarion River	Mouth to Ridgway, Pennsylvania. (90 miles)	Raccoon Creek	Mouth to mile 1.75.
Conemaugh-Kiske (Koskiminetas River)	Mouth to Apollo, Pennsylvania. (13.7 miles)	Red Bank Creek	To beneficial effect of Dam No. 9, Allegheny River. (About 1.5 miles above mouth)
Crooked Creek	To beneficial effect of Dam No. 6, Allegheny River. (About 1.5 miles above mouth)	Ridley Creek	Mouth to Chester, Pennsylvania. (2.0 miles)
Crum Creek	Mouth to Eddystone, Pennsylvania. (0.4 miles)	Schuylkill River	Delaware River to Phoenixville, Pa. (35.1 miles)
Delaware Bay & River	Atlantic Ocean to Hancock, New York. (332.6 miles)	Shenango River	Mouth to mile 1.8.
Darby Creek	Between Delaware and Philadelphia Counties, Pennsylvania. Mouth to 4.8 miles.	Susquehanna River (main branch)	Maryland State Line to 273.5 miles. (Above Athens, Pa.)
Little Beaver River	To Pennsylvania-Ohio State Line. Approximately 0.4 miles.	Susquehanna River (west branch)	Mouth to Lock Haven, Pennsylvania. Mouth to mile 3.2.
Mahoning Creek	To beneficial effect of Dam No. 8, Allegheny River. (About 1.4 miles above mouth)	Ten Mile Creek	Mouth to mile 3.2.
Mahoning River	To Pennsylvania-Ohio State Line.	Tionesta River	Mouth to mile 0.3.
		West Fork River	Mouth to mile 3.75.
		Wheeling Creek	Mouth to mile 0.5.
		Youghiogheny Reservoir	Dam to Maryland Line.
		Youghiogheny River	Mouth to Layton, Pennsylvania. (31.2 miles)

DIRECTORY OF PENNSYLVANIA MARINAS ACCESS AREAS and BOAT RENTAL FACILITIES

By ROBERT G. MILLER

From Danville south to Middletown, a distance of about 72 miles, there are at least a dozen access areas to the Susquehanna River but only, by mid-summer, water deep enough at either end of this stretch of waterway for pleasure boating.

Areas in between, such as, Herndon, Halifax and Millersburg, are extremely shallow and are much more suitable for air boats and other small craft which draw only a few inches of water.

However, in the spring of the year, when the flow is at its peak and Sunbury reports a five foot river stage, it's quite possible for the pleasure craft owner to journey downstream and up the Juniata River to Lewistown, a trip of about 91 miles.

During the remainder of the year the low water level confines pleasure boating to the Middletown area, north of the York Haven dam; from Harrisburg's Dock Street dam northward for a distance of about two miles; in the vicinity of Sunbury, at Northumberland and on the north branch in the Danville area.

Match the following nautical code flag symbols with those on the sketch and you will have a brief description of each of the access areas:



Goldsboro Boat House, at Goldsboro. Take Lewisberry exit off Interstate 83, between York and Harrisburg. Features public ramp established by the Pennsylvania Fish Commission, limited number of fishing craft, with or without motors, for rent; gasoline, oil and accessories. Telephone: Lewisberry 938-2248.



Elizabethtown landing, off Rt. 441, about three miles south of Middletown. Access road leads off Rt. 441, thence along the Pennsylvania Railroad Co. right-of-way to the river. No charge for launching.



Tri-County Boat Club, about two miles south of Middletown, off Rt. 441. Public ramp with gasoline and oil available along shore, parking space for cars and trailers. Fee for launching \$2.25. Refreshments also available.

Fish Commission access area constructed since map was made at Falmouth, Lancaster County, off Rt. 441, formerly Hess' landing. New boat launching facilities include ramp, paved parking area, boat rentals; sanitary facilities planned.



City Island with a public ramp maintained by the City of Harrisburg. Also the headquarters of River Rescue Inc. Bathing beach at north end of the island, parking facilities, and access to and from the island via ramps off the Walnut and Market streets bridges. Public boat launching ramp on south end of island.



Kraft Marine Inc., southwest end of the Walnut Street bridge, Wormleysburg. On water storage, gasoline and oil, repairs and accessories.



Harrisburg Seaplane Base Inc., 333 S. Front St., Wormleysburg. Concrete ramp, parking, gasoline and oil, motor repairs and accessories. Rowboats, with or without outboards, canoes and small sail boat rentals. On water storage. Telephone: Harrisburg 232-6052.



West Fairview, a Pennsylvania Fish Commission ramp, with access to the river and the Conodoquinet Creek. The river, in this area, is suited only for small craft but a portion of the creek is wide enough, and deep, for water skiing provided caution is used. Special PFC water skiing and speed regulations apply to this area.



Millersburg, a Pennsylvania Fish Commission ramp, off Rt. 147. Suitable only for small craft, that is, air boats, canoes and rowboats, except during high water in the spring.



Public ramp at the foot of Pine Street, in Selinsgrove, with access to the river and waters off Shady Nook, a cottage area on land leased by the Pennsylvania Power & Light Co. Limited parking space with gasoline and oil available only from nearby service stations.



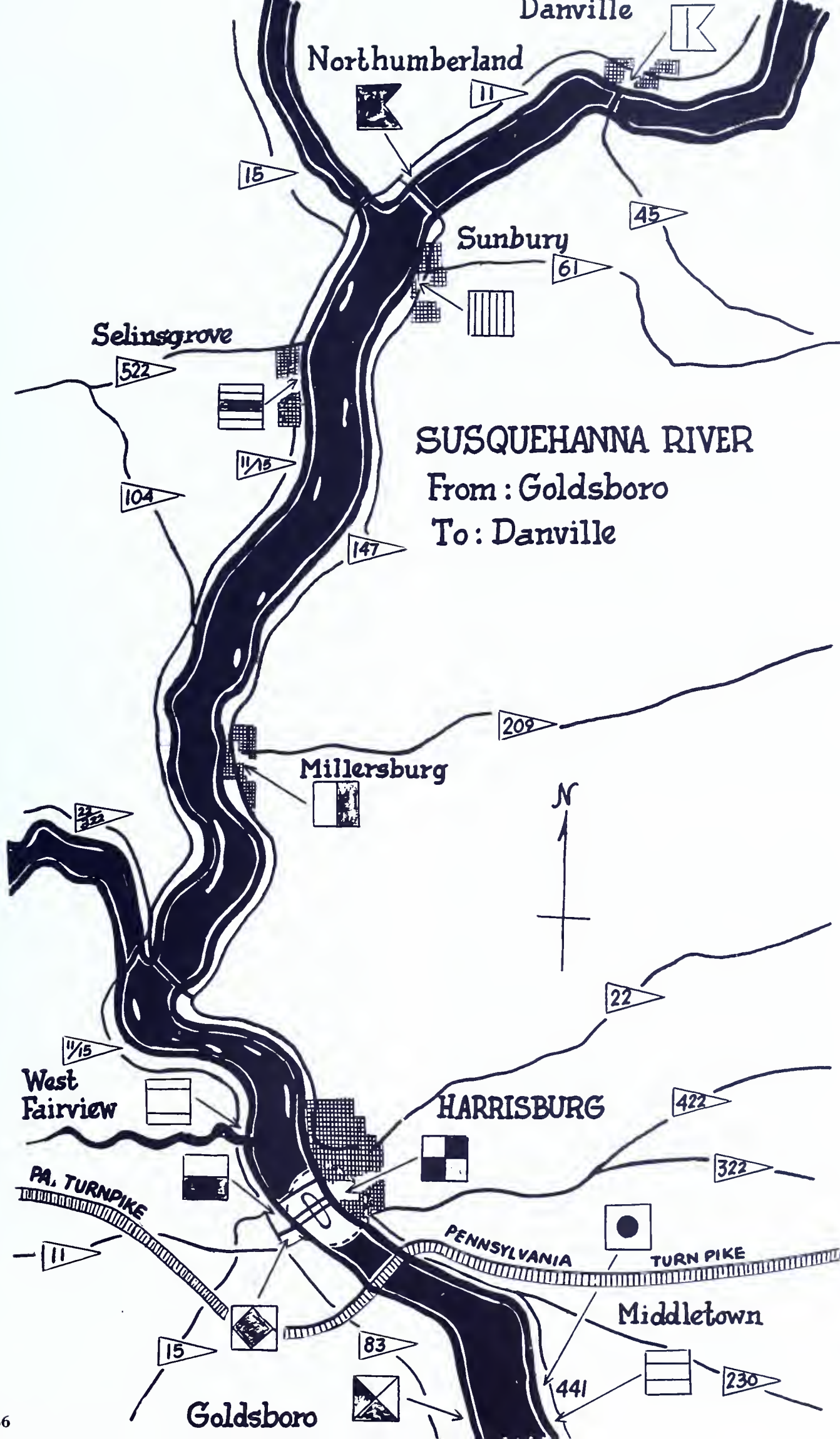
Sunbury, at Rts. 147 & 61, city maintained ramp on Chestnut Street. Limited parking space with gasoline and oil from area service stations. Three boat clubs in the area: Sunbury, Idle Hour and Bainbridge, spread out between the Bainbridge Street bridge and Walnut Street. Repair work and accessories at Lloyd's Motor Co., 970 S. Front St., Sunbury. Telephone 286-1481.



Northumberland Boat Club, off Rt. 11 just north of the junction of the west and north branches of the river. Caretaker on duty over the summer months, plenty of parking for cars and trailers, gasoline and oil. Charge for launching \$1.



Ferry Street landing, at Danville, with accommodations for parking autos and trailers. No gasoline and oil in the immediate vicinity except at service stations. Also access provided by the Danville Boat Club along Rt. 11, about one and one-half miles south of Danville, towards Northumberland.





Notes FROM THE STREAMS

■ Monroe County Sportsmen turned out in force to assist in the pre-season stocking of trout. This made it possible to make many more stops with the truck and do a better job of distribution, thus providing fishing over a longer period of time.

While stocking trout in the Pocono Creek, on March 30, several of the sportsmen and myself saw a brown trout taking an insect from the water's surface. This happened several times. At the same time about five feet above the trout there was a Phoebe also enjoying some of the same insects.—**District Warden WALTER BURKHART** (Monroe).

■ To those of us who have been fishing since childhood, some of the comments we receive in connection with the art are surprising to say the least. Not less than three fathers of young boys have approached me recently with an almost identical plea, "Would you mind telling me where I can take the kids and what to do when I get there? The boys want to go fishing and I don't know a thing about it." Our Fundamentals of Fishing schools should certainly enable many of these folks to better prepare themselves for the enjoyment to be found in America's Number One outdoor recreation.—**District Warden JAMES YODER** (Luzerne).

■ The Allegawes Boat Club of Franklin sponsored a boat trip on the Allegheny River from Franklin to East Brady on March 20. Fifteen boats and quite a large number of people made the trip, including many county and state officials and members of the Western Conservancy. The trip was made to point out the recreational possibilities on and along the river.—**District Warden CLARENCE W. SHEARER** (Venango).

■ Many expert anglers have said that more trout can be taken on flies than any other way, and last season I compared the catches of fly and bait fishermen at every opportunity. The statements held true and the fly men had the most fish. However, the lunkers seemed to go for the baits and lures. Many times I had the chance to observe more than four men fishing one large hole and the man with the flies produced more fish. This small scale study continued with the pan fishes also and here the fly men really produced from the first ice fishing through the entire summer. The lion's share of panfish went to the man using flies. Fly fishing may seem difficult, but the warden force is conducting schools and classes on the use of fly fishing equipment, so perhaps more people will take advantage of this opportunity and make this year the best fishing year yet.—**District Warden THOMAS L. CLARK** (Crawford).

■ Brookville is busting out all over in preparation for the 1966 Pennsylvania State Trout Fishing Contest which will be held June 11 through 19. The winner will participate in the finals of the Pennsylvania State Fishing Championship at Tidioute. More than \$300 in prizes will be awarded to winners in 27 classes. Prizes will be awarded to men, women and children for the largest brook, brown and rainbow trout caught during the contest from the North Fork of Red Bank Creek and its tributaries.—**District Warden JAMES DONAHUE** (Jefferson).

■ While patrolling the Driftwood Branch of the Sinnemahoning Creek the first week of March I was invaded by Boy Scout Troop 252 of Emporium, who were making a canoe trip on the stream. There were 14 scouts under the leadership of Mike McLean and Orie Mann who made the trip. This is an annual trip for the boys of Cameron County and they all seemed to be enjoying it very much.—**District Warden STANLEY G. HASTINGS** (Cameron).

■ In leafing through license applications from county issuing agents, I noticed that we are getting quite a few new licensees sixteen years of age, and also more husband and wife fishing teams. It looks as though we may expect another license increase this year.—**District Warden STANLEY G. HASTINGS** (Cameron).

■ Spawning northern pike in the lagoons of Presque Isle State Park tried the patience of fishermen to no end. The fishermen could see the northerns, but the fish had very little regard for the lures and live bait shown to them. This should change when the spawning run is over.—**District Warden NORMAN E. ELY** (Erie).

EAST STROUDSBURG AREA—JUNIOR-SENIOR HIGH SCHOOL

Mr. Clair H. Fleeger
Regional Warden Supervisor
Pennsylvania Fish Commission
Honesdale, Pennsylvania

Dear Mr. Fleeger:

May I take this opportunity to thank you and your staff for making possible your excellent clinic on the Fundamentals of Fishing for the two hundred girls and boys of our six hunting and fishing clubs. The members of our clubs, together with their faculty advisers, are very enthusiastic about the benefits they have derived from this project.

Very sincerely yours,
/s/ **RALPH O. BURROWS**
Principal

■ How's this for supersalesmanship? Fish Warden Dick Abplanalp, while manning the Fish Commission booth at

the Cleveland Sportsmen's Show, sold one gentleman from Mentor, Ohio, three nonresident fishing licenses, a one year subscription to the "PENNSYLVANIA ANGLER," and a copy of "Pennsylvania Fishes," for a total of \$31.00.

Some sales were not that easy, however. In one case, Dick had to agree to show two gentlemen where and how to catch trout before they agreed to purchase nonresident licenses.—**WARREN W. (BARNEY) SINGER**, Assistant to the Executive Director.

■ While talking with fishermen I was surprised to find one fisherman who had the same license number this year that he had last year. Ralph Santucci of Clarksville bought his license in February last year and got No. 22018, and this year he bought it in March and got the same number.—**District Warden KENNETH G. COREY** (Warren).

■ I saw Larry Emsinger in one of the local Huntingdon sporting goods stores one day looking over the rods, reels and other fishing equipment on display. I asked Larry if he was getting ready for the upcoming trout season and he replied he was thinking of buying some new equipment.

He explained that he hadn't fished for quite a few years, but, pointing to his young son that he proudly held in his arms, said, "I'll have to practice up so I can take this young fellow along with me."

Larry asked me a few questions about equipment and I made some suggestions. The next time I saw Larry he had his brand new spinning outfit and told me he was interested in catching some fish. I advised him to try the Raystown Dam as the crappies were hitting good and gave him a few pointers on how to catch these crappies.

Before too long Larry came to my house huffing, puffing, and all excited in general. Much to my surprise he had caught the largest white crappie that has been taken in Huntingdon County for some time. It was a beautiful 16½ inch fish that will win him a "PENNSYLVANIA ANGLER" Citation Award.

It's easy to see that this young man is on his way to becoming both an excellent fisherman as well as an outstanding father.—**District Warden JAMES VALENTINE** (Huntingdon-Fulton).

■ At a recent banquet of the Izaak Walton League I heard a conservation phrase coined. I am certain this phrase will live with me until eternity. The lines are very simple, but it behooves each of us who call ourselves conservationists to remember them—"Take nothing but pictures and leave nothing but footprints."—**District Warden SAMUEL HALL** (Lancaster-Lebanon).

■ The walleye in Shawnee Lake have been on the increase over the last eight years. Evidence of this was noted in Shawnee Run, the main tributary to Shawnee Lake. Beginning the week of March 13, it was common to see schools of walleye in the hundreds going up the Run to spawn. It has been our understanding that the walleye spawn in late April or early May, scattering their eggs over rocky shallows. This is perhaps true, but we do know they started to spawn in Shawnee Run the week of

March 13. I would estimate that several hundred people visited the stream to see this migration of walleye. At night looking at these fish with a light it looked like hundreds of small lights in the water. Checking on the rocky shallow areas, I have found large numbers of eggs and we certainly hope nothing happens so we will have a nice hatch of walleye.—**District Warden WILLIAM E. McILNAY** (Bedford and Fulton).

■ When stocking North Park Lake on March 28, I could not believe my eyes. The turnout was beyond my comprehension with nearly 300 spectators and television coverage. After seeing this, perhaps reservations would be in order for the April 16 opening.—**District Warden PAUL SOWERS** (Allegheny-Beaver).

■ During the pre-season trout stocking in Susquehanna County I was pleased to see the continued interest of the nonresident angler. Many of these people came from distances of fifty miles or more bringing their families with them. One gentleman, who is retired, assisted on two different days, carrying buckets of fish on some pretty long hauls.—**District Warden RICHARD R. ROBERTS** (Susquehanna).

■ I found an interesting account of McKean County 133 years ago in the March 30, 1966 issue of the Bradford Era. 133 years ago McKean County had a much larger land area than today. It included what is now Cameron and Elk Counties, part of Warren and probably part of Clearfield County. Smethport was the county seat and contained about 40 dwellings, one grist mill, one saw mill, one fulling mill, two stores, two taverns, jail, court house and county offices. The only other two towns were Emporium and Ceres. Neither contained more than six houses. The county had 922,880 acres and 1,438 inhabitants. Of the 1,438 inhabitants in the 1830's, 764 were white males and 674 were white females.—**District Warden WILBUR WILLIAMS** (McKean).

■ I have been assisting the Potter County Anglers Club stock trout from their cooperative nursery. To date about 40,000 legal size trout of the combined species have been stocked in public waters in Potter and Tioga Counties by this club. They still have 20,000 legal trout to be stocked in season and next fall for the ice fishermen. Other clubs in the county are doing a wonderful job also and all they can according to their capacity. The East Fork Sportsmen's Club stocked 7,000 brown and brook trout last fall; Oswayo Valley Rod and Gun Club stocked 6,000 brook and brown trout this spring; Roulette Fish and Game Club stocked 5,000 brook trout this spring; Austin-Costello Sportsmen's Club stocked 6,000 brook and brown trout last fall, and the Cross Fork Sportsmen's Club stocked 7,000 brook trout this spring.—**District Warden KENNETH ALEY** (Potter).

When painting your boat, glue a paper picnic plate to the bottom of the paint can to prevent drips from getting onto the deck.

YELLOW BREECHES CLUB PROJECT

Four years ago a group of men confronted with increasing fishing pressure on their favorite trout stream, the Yellow Breeches Creek in Cumberland County, formed the Yellow Breeches Anglers and Conservation Association, in order to insure the good fishing in the future that each of them had enjoyed in the past.

Although many of their early efforts were discouraging, they continued on and now are able to look back on those early years rather proudly, and their accomplishments speak for themselves.

They initiated a cooperative nursery project in Boiling Springs Lake, and could already visualize more trout boiling the waters of the Breeches when one morning they discovered dead trout by the hundreds, the result of unsuitable water conditions.

This necessitated a search for better water, which was eventually located on the farm of Mr. Homer Thorton, an area resident who has been a real blessing to the group. Mr. Thorton allowed the Association to construct two long raceways on Lutztown Run which flows through his property, granted them a long-term lease and gave members a separate right-of-way.

Through the combined efforts of the club members, Fish Commission personnel and Fish Commission member John Grenoble, of nearby Carlisle, the first fingerlings were held over the winter in 1962.

In 1965, the club raised and released approximately 32,000 trout, and held over about 200 excellent browns for stocking during the 1966 season. The club decided to reduce the number of trout to about 28,000 in 1966 to see if the fish would mature more rapidly and be in better condition when released. All of the fingerlings were supplied by the Pennsylvania Fish Commission and will be stocked in the middle section of the Creek, a stretch of about 15 miles between Route 34, downstream to U. S. Route 15. The nice thing about this stocking is that it is in addition to the fish consigned to the Creek by the Commission.

In addition to their fish rearing activities, the club has secured leases along approximately one mile of the stream from Boiling Springs downstream to a point below the Allenberry resort. They received special permission from the Fish Commission, and at the close of the regular trout season, District Fish Warden Perry Heath replaced the fly fishing only signs along the stream with "fish for fun" signs which were in effect until March, 1966.

Among the activities planned for 1966 are stream improvement projects on the fly fishing area using it as a pilot section, with the entire 15-mile stretch to be improved in the future.

The club invites all those interested in improving fishing in their favorite streams to visit the nursery and stream and see their work, and of course, bring along their fly rod, waders and feathered "goodies" for the trout. They would like to show their fellow fishermen what can be done to improve their sport, and hope that it will spur them to new efforts on behalf of the anglers in their own areas.—Perry Heath—District Warden.



RACEWAY VIEW of Yellow Breeches project where the trout are reared.



CLUB OFFICIALS view the project, left to right—Enoch Moore, president, Yellow Breeches Anglers and Conservation Association; Bob Brown, nursery coordinator, Penna. Fish Commission, Bob Line and Noel Heffelfinger, past president.



GRACIOUS HOSTS, Mr. and Mrs. Homer Thornton granted the club a long term lease and members a separate right-of-way.

The Elk County Story

By **BERNARD D. AMBROSE**

(District Fish Warden, Elk County)

ELK COUNTY, in Northwestern Pennsylvania, received its name from the vast elk herd which once roamed the area. It is one of the most wilderness areas in the Commonwealth and elk are still found in the Hicks and Dents Runs area near Benezette.

Trout waters are abundant in the county and the Pennsylvania Fish Commission and the U. S. Fish and Wildlife Service stock approximately 70,000 legal size brook, brown and rainbow trout each year in 125 miles of fast flowing streams and two crystal clear trout lakes.

The county boasts of having no major streams or lakes closed to public fishing. This is due mainly to the fact that 60% of Elk County is owned by Federal and State agencies. Also, many large holders of private property permit fishing on their properties.

One of the county's assets is the hundreds of miles of small mountain streams which offer a brand of fishing which many people think no longer exists—native brook trout. They are abundant in many mountain streams of the county, and each year the Pennsylvania Fish Commission, with the aid of local sportsmen's organizations, stocks fingerling brook trout in these waters, thus assuring future generations of "native" trout fishing.

The cooperative trout nurseries operated by sportsmen's groups greatly assist the Fish Commission in its work. Elk County is fortunate to have three such clubs—the St. Marys Sportsmen, Elk County Anglers and the Hi-La Sportsmen. Each is strategically located in the county and contribute approximately 20,000 additional legal size brook and brown trout.

Some of the major trout streams which continually produce excellent catches and are known for their scenic beauty are:

The West Branch of the Clarion River near Johnsonburg offers lunker trout and is the heaviest stocked stream in the area. U. S. Rt. 219 parallels the entire length of this stream.

Mix Run in Southeastern Elk County offers the anglers a Grand Canyon type of wilderness. The fishing is excellent and fishing pressure is very light.

Driftwood Branch in Northeastern Elk County carries a tradition of excellence in fishing and wilderness atmosphere.

Twin Lake in Northwestern Elk County is a favorite spot. Although only 8 acres, it is heavily stocked and is one of the Allegheny National Forest's outstanding camping and swimming areas.

Outstanding streams near the county seat, Ridgway, include Bear Creek, Big Mill Creek (with a mile of fly fishing only water), and Spring Creek.

Another excellent stream is Wilson Run, near the village of Wilcox.



BOY SCOUTS turned out in large numbers at Elk County Jamboree.

Although the county is predominantly a trout fishing area, it also has two top-notch warm water areas. The 70-acre Ridgeway Reservoir, or Norton Dam, is open to public fishing from the shoreline. It is stocked with trout in the spring, and with bass, crappie and northern pike during the summer season. The Clarion River also provides springtime sucker fishing and good bullhead action later on in the year. It is also a favorite with canoeists who make the run between Ridgway and Cook Forest, a distance of about 35 miles of breathtaking scenery.

Elk County also has something to offer the pleasure boaters, the East Branch of the Clarion River Flood Control Dam near Glen Hazel in the Northcentral section of the county. The reservoir is 1240 acres when at full capacity. There are few areas in Pennsylvania that can top this area for water sports action and scenic beauty.



COOPERATIVE NURSERY group in the Northeast is addressed by Robert Brown, Nursery Coordinator, Penna. Fish Commission. Clubs represented included Hillside Rod and Gun Club, Canton Rod and Gun Club, Stony Fork Rod & Gun Club and Consolidated Sportsmen of Muncy Creek.—Photo by Clair Fleegeer.

100th ANNIVERSARY DINNER HIGHLIGHTS



ONE OF THE highlights of the recent successful Spring convention of the Pennsylvania Federation of Sportsmen's Clubs held in Harrisburg was the banquet commemorating the 100th anniversary of the Pennsylvania Fish Commission. Each member of the commission was presented a beautiful certificate in appreciation of the services, time and effort they have given to their job. Here are members of the Fish Commission looking over one of the certificates: I. to r.—Joseph Critchfield, Raymond Williams, Wallace Dean, Vice-President Howard Heiny and Douglas McWilliams.



FORMER members of the Pennsylvania Fish Commission were honored at the PFSC banquet with the presentation of certificates citing their contributions to the sportsmen over the past year. Former members present were I. to r.—John Neiger, H. R. Stackhouse, former Administrative Secretary, Clifford Welsh, Charles Mensch.



SPEAKER at the dinner was U. S. Fish & Wildlife Commissioner—Clarence F. Pautzke.



OSCAR BECKER (left) Honorary President of the PFSC presented a gift to H. R. Stackhouse, former Administrative Secretary of the Pennsylvania Fish Commission. The gift, as you can see was an enlarged, framed photo of Mr. Stackhouse taken in his office during his tenure as a member of the commission.

1966 CONSERVATION CAMP OPENS JUNE 26

A small army of teenagers from throughout the State will invade Central Pennsylvania's forests this summer to learn first-hand how to conserve our natural resources.

Four separate groups totaling 224 high school boys will spend two weeks each at the Camp between June 26 and August 20. They will learn how to improve streams and forests, pond renovation, and "just plain how to have fun in the forests."

Nearly 3,000 youngsters from all parts of the State have passed through the Camp since it was first started in 1948. Some of the early campers have gone on to become fish wardens, forest rangers, college agricultural professors, and leading sportsmen in their areas.

Charles W. Stoddart, Jr., professor of physical education at the Pennsylvania State University, is director of the camp. Stoddart, who helped establish the camp, has won conservation awards for his work.

The Camp is sponsored by the Pennsylvania Federation of Sportsmen's Clubs, which foots the bills for the young campers. The youngsters are chosen by a sportsmen's club or conservation agency from their home area, generally through a written essay on conservation.

The camp site is Penn State's 6,500-acre mountain forest Stone Valley Recreation area, located in Huntingdon County, about 15 miles south of the University Park Campus.

Pennsylvania Fish Commission personnel will serve as instructors at the camp.



IN AGREEMENT ON MULTIPLE LAKES

Left to right Ivan McKeever, State Conservationist, Soil Conservation Service and Robert Bielo, Executive Director, Pennsylvania Fish Commission signing land rights agreement which provides for the building of multiple lakes in the Briar Creek Watershed, Columbia County and the Marsh Creek Watershed in Tioga County.

The two lakes will be built under Public Law 566 and will be open to the public for fishing, boating and other recreational activities. This will provide an additional 110 acres of water for the sportsmen in Pennsylvania.

These projects are being developed between local, state and federal governments. In the Briar Creek project, the Columbia County Commissioners are handling a large share of the construction costs of the recreation lake. In the Marsh Creek project, the Borough of Wellsboro is responsible for a large share of the construction costs for the lake.

PENNA. ANGLER CITATION WINNER TAKES HONORS IN FIELD & STREAM FISHING CONTEST

Andrew Misko, Eynon, Pa., took top honor in the Eastern rainbow trout, 4-lb. test line division of the Field & Stream national fishing contest. The trout was caught April 24, 1965 at Upper Woods Pond, Wayne County, Pa., and weighed 10 pounds. Misko had previously taken a Pennsylvania Angler Citation Award for the largest rainbow trout caught in Pennsylvania in 1965.

ANGLER COPIES AVAILABLE

Anyone interested in securing 1934 to 1950 back copies of the PENNSYLVANIA ANGLER—write:

Mrs. Emily Palubinsky
Box 71, Zion Grove, Pa. 17985



ORDER OF THE HAT, highest honor bestowed by the Harrisburg Fly Fishers Club went to Paul Antolosky, district warden for Centre County, Pennsylvania Fish Commission. The Pennsylvania Angler and all his fellow employees salute a deserving gentleman!

PENNSYLVANIA MAN RECIPIENT OF 1966 AMERICAN MOTORS CONSERVATION AWARD

Dr. Michael A. Farrell of University Park, a scientist at Penn State University, has won a 1966 Conservation Award from American Motors for his leadership in a research project at the school which seeks to determine the feasibility of sewage disposal by means of spray dispersion for fertilization of farm lands and forested areas. Effects of the \$250,000 research project could be far-reaching in the area of conservation in terms of reduced stream pollution and of increased vegetation for the wild animal population.

The awards, which were initiated in 1953 to emphasize the need for conserving the nation's natural resources, are presented annually to individuals and groups for outstanding efforts in various areas of conservation.

Eleven men were named as winners of professional awards, including one joint award, and seven men and three women were selected for non-professional awards.

HARRISBURG HUNTERS & ANGLERS AWARDS



JOHN BISTLINE, left, chairman of the Harrisburg Hunters and Anglers annual fishing contest, awards prize to **David Gunderman**, age five, the youngest winner, as **Miles Witt**, assistant regional warden supervisor of the Pennsylvania Fish Commission, helps David to hold his trophy trout.



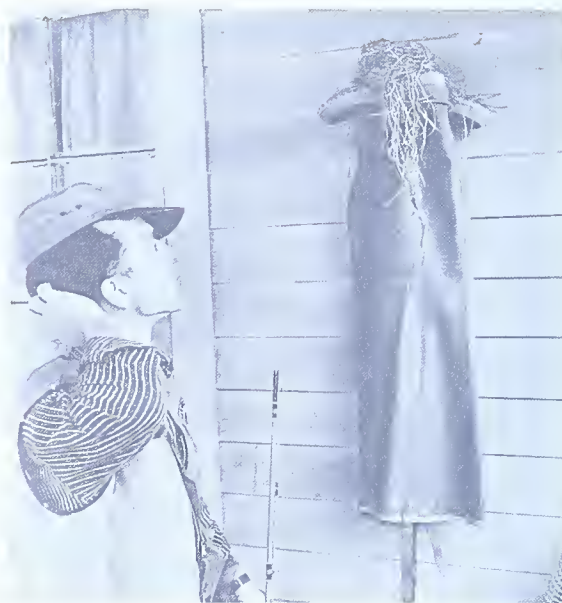
WINNERS in the Harrisburg Hunters and Anglers annual fishing contest were front row, left to right, **Douglas Miller**, **David Gunderman**, **James Bixler**, **James Weidenhof**, **Gary Wright**; second row, left to right, **Willard Shaffer**, **Kenneth Heisey**, **Charles Moyer**, **Ronald Kever**, **Robert Lenig**; third row, left to right, **William Hocker**, **David Smith**, **Albert Douglas**, **Earl Hofsass**, **William Moyer**, **Jerome Fischer**.

MINNOW CATCHER

To make a good minnow catcher, remove the cloth from an old umbrella and cover with mosquito netting. Then just drag the umbrella through the water.

EASIER ROWING

To save wear and tear on hands, place a small, split section of a bicycle tire on the grip of boat oar. This gives you a much more firm and comfortable hold. The tread from a bicycle handle also gives a good grip.



FISHING BOOTS FOR THE BIRDS—Carefully planning an opening day for trout, **Ted Eichelberger**, Benscreek, Pa., came upon this situation when he went for his boots. Problem is, how to get the boots without disturbing the bird nest.

STREAM MAP FOR FISHERMEN

Fishermen may find handy a new Stream Map of Pennsylvania, published by the Agricultural Experiment Station at The Pennsylvania State University.

The map includes over 3,000 each of streams, towns, and elevations above sea level. Names of major mountains and valleys are included as are locations of forest fire control towers operated by the Commonwealth. Swamps, lakes, dams, and reservoirs are included, as are boundaries of primary and secondary watersheds.

Copies of the Stream Map are available flat or folded. The flat maps are especially suitable for mounting on walls of hunting and fishing cabins or camps. Either way they cost \$1.00 a copy by writing to Maps, Box 6000, University Park, Pa. 16802. Persons writing for a Stream Map should indicate whether they want a flat or folded one.

The map measures nearly three feet high and five feet wide. It was planned and produced by **Howard W. Higbee**, professor emeritus of soil technology at Penn State. Mr. Higbee says it is the most detailed map of its type ever assembled for Pennsylvania and took three years to produce.

The map offers the ultimate in accuracy and usefulness for anyone interested in the streams and landscapes of Pennsylvania, Mr. Higbee points out. Populations of towns and cities from under 250 to over 100,000 are included, taken from the 1960 U. S. census.

CLEAN SKILLET

To remove cooked-on grime from a skillet, turn it upside down over a died-down campfire or live coals. The dirt will pop off leaving the pan as smooth as new.



HONORING WARDEN JAMES BANNING at Izaak Walton League dinner are, left to right: Robert Sica, chapter vice president and program chairman; John I. Buck, Region II warden supervisor; Joseph Critchfield, Commission member; Banning; Voyle Beaumont, chapter president, and R. Stanley Smith, Fish Commission member from Waynesburg.—Herald-Standard Photo.

JAMES BANNING HONORED

James Banning, retiring Fayette County fish warden, was honored by the Uniontown Izaak Walton League Chapter recently. Banning, who retired in May, has been warden in the county since 1933.

A wooden plaque in which was burned a map of Fayette County and the fishing streams was presented to Mr. Banning. The 24-inch square plaque was titled, "Jim Banning Land." The Chapter gave Jim a jacket.

Several speakers lauded Mr. Banning for his sincere efforts in behalf of better fishing, and members of the Fish Commission thanked him for his capable work over a 33-year period.

JOHN ALDEN KNIGHT DIES

John Alden Knight, nationally known outdoors columnist, of Montoursville, passed away in South Miami, Florida on April 8.

Knight, who originated the Solunar Tables back in 1926, was the author of twelve books on fishing, hunting and other outdoor topics. He also wrote more than 500 magazine articles, including many for the "PENNSYLVANIA ANGLER." His weekly syndicated column was distributed to 147 newspapers in the nation.

He is survived by his wife, a daughter, and a son, Richard, who in recent years collaborated with his father on his column.

The "PENNSYLVANIA ANGLER" and the Fish Commission pay tribute to a fine gentleman.



DELAWARE COUNTY Field and Stream Association honored local landowners for hunting and fishing privileges extended during the seasons. Land owners were represented by Albert Harvey, Sr., standing on left; others attending were: (left to right) standing—Ray Bednarchik, Harold Corbin, Penna. Fish Commission, Harold Lentz, Penna. State Police, Charles Lentz, banquet chairman, Richard Feaster, Pa. Game Commission. Seated (left to right)—Judge John V. Diggins, Glenn Bowers, executive director, Penna. Game Commission, Ed Kinden, Club president, Shorty Manning, MC and Public Relations chairman and Temple Reynolds, Penna. Game Commission.

DIRECTORY OF BLUE BOOK AGENTS

Additional places for subscribing to the **PENNSYLVANIA ANGLER** and where the latest and newest Pennsylvania Fish Commission **FISHING REPORTS** and **INSTANT INFORMATION** are available.

Allegheny County—Glenn's Sports and Hobby Shop,
4129 Brownsville Road, Pittsburgh, Penna.

Berks County—Kagen's Inc., Reading, Penna.

Bucks County—Andrew Maroney—Andy's Sport &
Hobby Shop, Yardley, Penna.

Cambria County—Shoff Sporting Goods, Ebensburg,
Penna.

Chester County—Daniel W. Bullock, Berwyn,
Penna.

Franklin County—P. Paul Overcash, Chambersburg,
Penna.

Jefferson County—Deman's Sporting Goods,
Brookville, Penna.

Lackawanna County—Eynon Drug, Eynon, Penna.

Lackawanna County—Edward Rebar, Throop, Penna.

Lehigh County—Gerald T. Chapleski, Allentown, Penna.

Lehigh County—Paul Daubanspeck, Allentown, Penna.

Lehigh County—Pete Nestor, Nestor's Sporting
Goods, Inc., Allentown, Penna.

Northampton County—Charles Schwartz, Bethlehem,
Penna.

Schuylkill County—Joseph Kopena, Mary-D, Penna.

Susquehanna County—Halls Sporting Center,
New Milford, Penna.

Warren County—F. J. Erich Sporting Goods Store,
Irvine, Penna.

York County—Harry Haines, Lincoln Highway
Garage, York, Penna.

York County—Squab's Outdoor Shop, York, Penna.

FREE COLOR CHART

COMMON FISHES OF PENNSYLVANIA

WITH ALL NEW

AND RENEWAL SUBSCRIPTIONS

TO *Pennsylvania Angler*

Enclosed is \$..... for my (New) (Renewal)
(Gift Subscription)

1 year (12 issues) \$2.00

3 years (36 issues) \$5.00

Please send to:

Name

Address

Town Zip Code

Make check or money order payable to the Pennsylvania
Fish Commission

Mail to—PENNSYLVANIA FISH COMMISSION
HARRISBURG, PA.

Cash sent at your own risk. STAMPS NOT ACCEPTABLE.

Tip-O'-The-Month

By C. BOYD PFEIFFER



KEEPING RODS TOGETHER

Pipe cleaners should be carried in every anglers kit whether he is a smoker or not. As shown here, they are easy and convenient to use to keep a few rods together and organized when going on a trip, or moving to a new spot when shore line fishing. It will also help to keep rods together and out of the way between trips. The rods will not become tangled, or even worse, broken. Another use for a pipe cleaner is in making a panfish "bug." Take a plain hook and wrap the pipe cleaner closely around the hook shank to imitate a juicy worm or caterpillar.

FISH FOR BREAKFAST?

Fish for breakfast? "Why not?" asks the Bureau of Commercial Fisheries. And to carry out the fish-for-breakfast theme, the Bureau has announced publication of a new recipe booklet to help homemakers perform their culinary magic with fish, and at the same time provide the family with a hearty morning meal. The booklet is available for 25 cents from the Superintendent of Documents, Washington, D. C. 20402. It is illustrated in color.

FISH DIET CUTS HEART FATALITIES

Dr. Averly Nelson of Seattle has published a report on his experimental results over the past 13 years in which patients having one or more heart attacks were put on diets in which the type of fat was carefully controlled. Tremendously effective reduction in deaths from subsequent heart attacks resulted from those patients who stayed on the diet in which fish played a prominent role.

Dr. Nelson says in his article: "Fish are particularly important because they contain polyunsaturated fatty acids which lower cholesterol levels."—American Fishes and U. S. Trout News.

SCHOOL'S OUT!

BY NED SMITH

DRY FLIES ARE FUN



In previous articles we discussed choosing the proper fly fishing equipment and learning to cast. Now let's talk about catching trout and, because by mid-summer the trout are used to feeding on the surface, let's stick to dry flies.

If there are natural insects hovering over or floating on the stream start with the artificial fly that most closely resembles them in color and size. Otherwise use one of the "standards"—a light cahill, Adams, spent-wing, brown bivisible, blue dun, etc.

Your leader should taper to a 4X tippet or smaller. Tie on your fly with turle knot, and dress it with dry fly oil.

Approach the stream carefully and watch for rings or splashes on the surface that would indicate feeding fish. If you see one carefully cast above it so that your fly floats over the spot. If the fish refuses it try again; sometimes it takes coaxing. Should the fly suddenly disappear set the hook by gently raising the rod tip, and with luck you'll have him. Hold your rod high while playing him, and be sure he's tuckered out before trying to lead him into your landing net.

Unless you want to kill the trout hold him gently in the landing net and remove the hook. If he doesn't swim away when released move him back and forth in the water to force water through his gills and revive him.

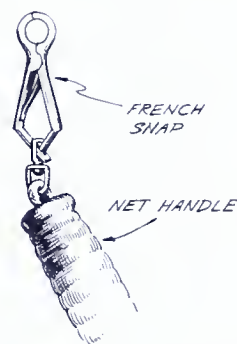
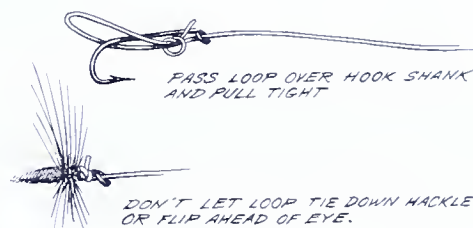
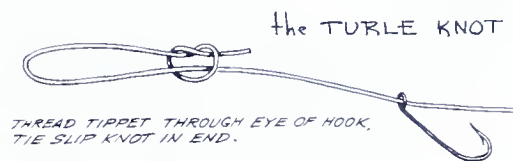
Where do you fish when the trout are not feeding on the surface? With experience you will learn that trout lie in such places as eddies at the foot of rapids, in front of and behind rocks in moving water, in the main current cutting through pools, and beneath submerged logs. Most of a trout's food is carried to it by the current, and any obstruction that breaks the current is a good place to expect a fish. Polaroid sunglasses are a great help in seeing underwater cover and fish.

Try to prevent the current from grabbing your line and dragging the fly across the water. Sometimes fish will hit a dragging fly, but usually they will not. Casting almost directly upstream where possible will not only prevent

drag, but will also allow you to approach your quarry from the rear, where you are less likely to be seen.

In July and August you might want to try imitations of land insects—the grasshoppers, beetles, leaf hoppers, etc. that are so abundant in late summer. Some good fly patterns are the jassid, the Letort beetle, the ant, and various grasshopper imitations.

There's a lot more to dry fly fishing than this, of course, but this is all we have space for. Besides, you'll have more fun learning about it on the stream than reading it from a magazine page, anyhow.



TAME THAT NET

Landing nets with elastic carrying cords can give you a nasty wallop when they catch in brush or fences and suddenly let go. Try removing the cord and attaching a French snap to the handle. This can be snapped to a ring sewed to your creel harness or jacket at the front of the armpit, or to a strap attached to the back of your collar. In any of these positions it will be out of the way, yet easily unsnapped when needed.

A Tiger—

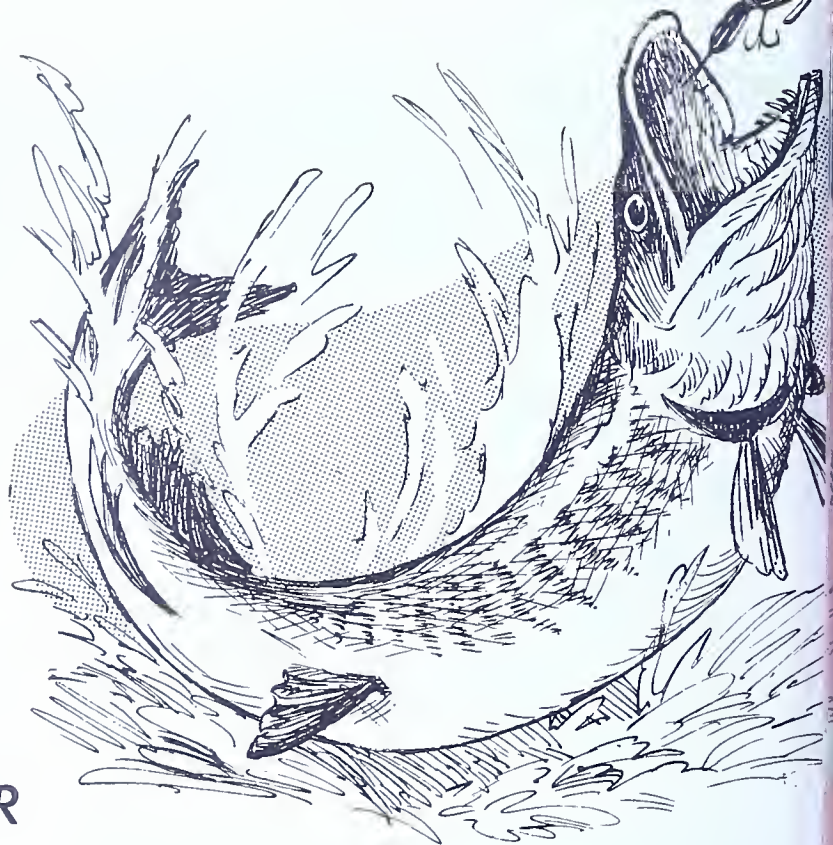
ON YOUR LINE

MAY BE A

PENNSYLVANIA ANGLER

Citation—ON YOUR WALL!

GET FISHIN'!



MINIMUM CITATION SIZES:

Species of Fish	Minimum Length in Inches	Species of Fish	Minimum Length in Inches	Species of Fish	Minimum Length in Inches
American Shad	25 in.	Catfish	30 in.	Northern Pike	36 in.
Bluegill	11 in.	Crappies (includes black and white)	15 in.	Rainbow Trout	27 in.
Brook Trout	17 in.	Eel	40 in.	Rock Bass	11 in.
Brown Trout	28 in.	Fallfish	18 in.	Sheepshead	25 in.
Bullhead	15 in.	Lake Trout	30 in.	Smallmouth Bass	20 in.
Carp	36 in.	Largemouth Bass	23 in.	Walleye	30 in.
Chain Pickerel	25 in.	Muskellunge	45 in.	Yellow Perch	14 in.

RULES:

Fish must be caught in Pennsylvania public waters by legal methods during seasons open for the taking of the species involved.

Fish must be measured, weighed and recorded by fishing license issuing agent or tackle store within the state by the owner, manager, or an authorized agent of the respective establishment.

Photographs are desirable as further proof of catch but are not required.

Non-residents as well as residents are eligible for citations if fish are caught under the above conditions.

Only fishing citation applications received within 90 days from date of catch will be honored.

APPLICATION FOR PENNSYLVANIA ANGLER FISHING CITATION

The Editor—Pennsylvania Angler
Pennsylvania Fish Commission, Harrisburg, Pa.

Date.....

Please send me the Pennsylvania Angler Magazine's Fishing Citation with the inscribed data listed below:

Name (please print)

Address City.....State.....

Species Length Weight

Type of Tackle

Bait or Lure Used

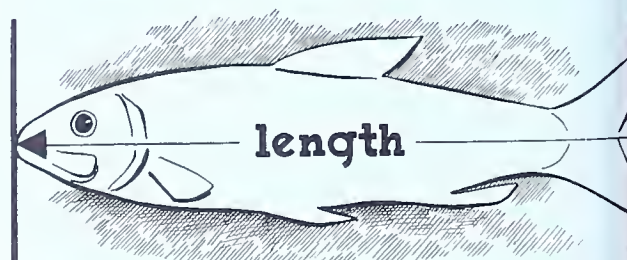
Where Caught.....in.....County

Date Caught Catch Witnessed by

Measured and Weighed by

At

HOW TO MEASURE:



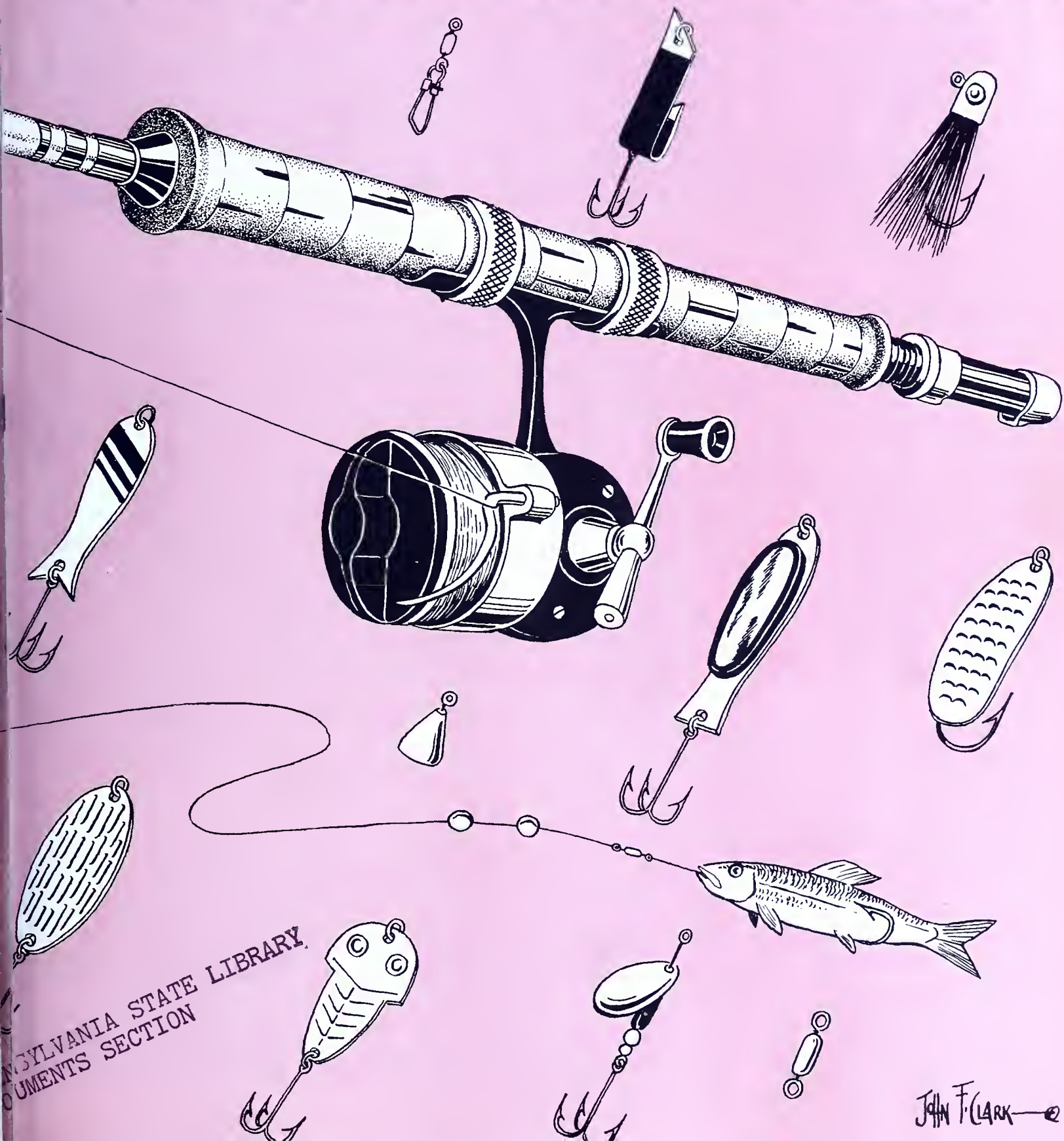
JUNE 1966—OUR 100th YEAR



Pennsylvania



ANGLER



PENNSYLVANIA STATE LIBRARY
DOCUMENTS SECTION

John F. Clark

**PENNSYLVANIA
FISH COMMISSION
DIRECTORY**

EXECUTIVE OFFICE

ROBERT J. BIELO
Executive Director

GORDON TREMBLEY
Assistant Executive Director

EDWARD R. THARP
Assistant Executive Director
Watercraft Safety

WARREN W. SINGER
Assistant to Executive Director

PAUL F. O'BRIEN
Administrative Officer

JOHN M. SMITH
Comptroller



DIVISION DIRECTORS

KEEN BUSS
Research and Fish Management
R. D. 1—Box 200-C
Bellefonte, Pa.—16823

HOWARD L. FOX
Propagation and Distribution
Bellefonte, Pa., R. D. 3—16823

GLEN SPENCER
Real Estate
Harrisburg

EDWARD MILLER
Engineering
Bellefonte, Pa., R. D. 3—16823

WILLIAM W. BRITTON
Law Enforcement
Harrisburg

ARTHUR BRADFORD
Pathology
Bellefonte, Pa., R. D. 1—Box 200-C
16823

GEORGE FORREST
Public Relations
Editor
Harrisburg



REGION ONE

S. CARLYLE SHELTON Warden Supervisor
Tionesta 16353 Phone: 814-755-8811

REGION TWO

JOHN I. BUCK Warden Supervisor
R. D. 2, Somerset, Pa. Phone: 814-445-4913

REGION THREE

CLAIR FLEEGER Warden Supervisor
351 Terrace St., Honesdale, Pa.,
Phone: 717-253-3724

REGION FOUR

HAROLD CORBIN Warden Supervisor
R. D. 2, Annville, Pa.,
Phone: 717-273-2601, Ex. 86
I. G. M. R. 17003

Pennsylvania Angler

Published Monthly by the
PENNSYLVANIA FISH COMMISSION
COMMONWEALTH OF PENNSYLVANIA

William W. Scranton, Governor



PENNSYLVANIA FISH COMMISSION

ROBERT M. RANKIN, President Galeton
HOWARD R. HEINY, Vice President Williamsport

GERARD J. ADAMS Hawley
JOSEPH M. CRITCHFIELD Confluence
WALLACE C. DEAN Meadville
RAYMOND M. WILLIAMS

JOHN W. GRENOBLE Carlisle
DOUGLAS McWILLIAMS Bear Gap
R. STANLEY SMITH Waynesburg
.....East Bangor



JUNE, 1966

VOL. 35, NO. 6

Contents

- 1 HISTORY OF THE BASS IN PENNSYLVANIA
- 5 FACTS CONCERNING THE PRODUCTION AND STOCKING OF WARM WATER FISHES—Keen Buss, Chief Aquatic Biologist, Pennsylvania Fish Commission
- 9 WHAT IS AN ANGLER?—Jim Hayes
- 10 SURGICAL TOOLS AID THE FLY TIER—C. Boyd Pfeiffer
- 12 ANGLER'S SHOPPE—Don Shiner
- 13 FISHLINE DRYING REEL—Hi Sibley
- 14 HOW TO KEEP YOUR FISH AND EAT IT TOO—Capt. Robert Barnes
- 16 DIRECTORY OF PENNSYLVANIA MARINAS, ACCESS AREAS AND BOAT RENTAL FACILITIES—Robert G. Miller
- 18 FISHERMAN'S FAIRWAY—Ray Ovington
- 19 AN EXPERIMENT WITH STEELHEADS—Cal Kern
- 22 MODERN CAMPING—Del and Lois Kerr
- 23 EDUCATION FOR CONSERVATION—Kenneth Depoe
- 24 NOTES FROM THE STREAM
- 28 TIP-'O-THE MONTH—C. Boyd Pfeiffer
- 29 SCHOOL'S OUT—Ned Smith

Cover Art by John F. Clark

POSTMASTER: All 3579 forms to be returned to Dunlap Printing Co., Inc., Cherry and Juniper Sts., Philadelphia, Pa. 19107.

The PENNSYLVANIA ANGLER is published monthly by the Pennsylvania Fish Commission, South Office Building, Harrisburg, Pa. Subscription: One year—\$2.00; three years—\$5.00; 25 cents per single copy. Send check or money order payable to Pennsylvania Fish Commission. DO NOT SEND STAMPS. Individuals sending cash do so at their own risk. Change of address should reach us promptly. Furnish both old and new addresses. Second Class Postage paid at Harrisburg, Pa. and at additional mailing offices.

Neither Publisher nor Editor will assume responsibility for unsolicited manuscripts or illustrations while in their possession or in transit. Permission to reprint will be given provided we receive marked copies and credit is given material or illustrations. Communications pertaining to manuscripts material or illustrations should be addressed to the Pennsylvania Fish Commission, Harrisburg, Pa. NOTICE: Subscriptions received and processed the 10th of each month will begin with the second month following.

History of the Bass in Pennsylvania



TOUGHEST FIGHTER of them all—The Smallmouth Bass

MANY modern anglers who have known the savage strike of a small mouth bass and its subsequent breaks from the water in an effort to shake the hook, believe that this hard-fighting gamester is superior to other game fish in every respect. It seems almost incredible that one hundred years ago, when the Pennsylvania Fish Commission was organized, not a specimen of this tribe was found in the waters of the Commonwealth.

For the introduction of this magnificent game and table fish we are indebted, primarily, to an enthusiastic angler, "Thad" Norris, and a number of ardent Easton and Philadelphia fishermen.

According to the Report of the State Commissioners of Fisheries for 1896, early in 1870, Mr. Norris, who was thoroughly acquainted with the habits, game qualities and table merits of the "black" bass, feeling satisfied that this species of fish would do well in the waters of Pennsylvania, broached the subject of introducing a number to Mr. Howard J. Reeder and G. W. Stout. These gentlemen entered enthusiastically into the project and a considerable sum of money was speedily raised, Mr. Norris collecting about \$1,000 and Mr. Stout \$313.

With one-half the amount collected, about four hundred and fifty black bass were purchased at Harper's Ferry. These fish were mature specimens taken from the Potomac River, which was full of them, the river having been incidentally protected through the Civil War.

The bass thus purchased were taken to the Delaware River, where they were deposited, October 26, 1870, just below the Lehigh Dam at Easton. Shortly afterwards a number of other public-spirited citizens residing along the Susquehanna and Schuylkill rivers, purchased a number of fish from the same locality on the Potomac, paying therefore one dollar each, and planted them in those two streams.

The result surpassed their expectations. The fish took kindly to their new quarters and multiplied in such amazing quantity that in three years they were caught in the Delaware, Susquehanna and Schuylkill rivers in great numbers. Fish four and five pounds in weight were frequently caught in 1873. The voracity and eagerness with which they took both bait and fly, the stubbornness and vigor with which they fought for freedom and life when hooked, speedily made them a favorite game fish among anglers.

In 1873, the Board of Commissioners of Fisheries decided to take bass from the Delaware for stocking other waters of Pennsylvania. Under the distribution plan adopted, 2,044 mature bass were taken from the Delaware during the first year. Waters stocked with these fish were the Lehigh River, North Branch and West Branch of the Susquehanna River, Juniata River, Yellow Breeches Creek, Chiquesalonga Creek, Octoraro Creek, Pine Creek and Codorus Creek.

The second year's stocking program included Muncy Creek, Swatara Creek, Conestoga Creek, Mill Creek, Brandywine Creek, Pine Creek, Conroy Creek, Canton Creek, Buffalo Creek, Penn's Creek, Wissahickon Creek, Little Conewago Creek, Conodoguinet Creek, Marsh Creek, Big Conewago Creek, Big and Little Chiquesalonga Creeks, Susquehanna River, Allegheny River, and Saylor's, Porter and Twelve Mile Lakes in Pike County. This widespread plan of distribution resulted in an increase of bass in practically all waters of Pennsylvania.

These fish were transported to their new quarters under the personal direction of Mr. John P. Creveling, and so carefully was the work done that not a dozen fish were lost on the way. They were conveyed in ordinary fifteen gallon milk cans. The temperature of the water was kept at about 62° Fahrenheit. From twenty-five to fifty fish were contained in each can, and Mr. Creveling required



LAKE CAREY, Wyoming County, looking southwest

six men to assist him in the work of caring for them during the journey.

So great was the demand for black bass, however, and so limited were the financial resources of the Commissioners that in 1873 these gentlemen were compelled to announce that they could supply but a limited number to each applicant, and then only on the individual paying the freight. This, it is related, was cheerfully done.

Almost without exception, when introduced, the black bass became abundant. The original planting was made with the hope that they would serve as an ideal substitute, from the game fish angle, for the brook trout, which at that time, was rapidly disappearing from some of our streams. It soon became evident, however, that the stocking of black bass in smaller bodies of water, would develop into a costly experiment. So abundant did they become in waters offering inadequate range, that other favorite species of fish were threatened with extinction. In larger water areas, with their greater forage facilities, the bass was regarded as a fine addition to native species of fish.

Nature's regulation of balance in Pennsylvania's inland waters was vividly illustrated in the instance of the bass. The tremendous food supply available for these voracious game fish when they were originally stocked was sufficient to carry an almost uninterrupted increase in the number of bass during a period varying from 10 to 20 years. Eventually, however, the vast numbers of bass present in smaller waters resulted in a slaughter of other species. When the food supply dwindled, the cannibalistic characteristic of bass and other game fishes asserted itself. Small

bass necessarily replaced the minnow as a source of forage, and so effective was nature's system of restoring natural balance, that within a few years the bass supply had dwindled to or below normal.

The following comments on the black bass, taken from the Biennial Report of the Commissioners of Fisheries for 1883-84 furnish a clear idea of the vast numbers of bass then present in Pennsylvania waters.

"While all will admit that the black bass is one of the most prolific, palatable and gamey of our fresh water fishes, the question has arisen and is being warmly discussed whether its introduction into the waters of eastern Pennsylvania has been a blessing or otherwise.

"Nearly everybody, but especially sportsmen, anticipated great results from their introduction. Anglers were especially delighted, while commercial fishermen, turning their eyes toward the Potomac, which was producing great quantities of bass, looked hopefully forward to the time when the streams of our own state would yield a like harvest. Anticipation ran high and it cannot be denied that it was fully warranted by the almost immediate increase in number and size of the newcomers.

"That those bright anticipations were ephemeral and that they were realized but for a very brief period needs not the saying. In some cases the bass were roundly denounced as nuisances and among the loudest and most vigorous complaints were from some who, only a little while before, had been their most zealous champions. The strangers were charged with not merely devouring other fish too weak to defend themselves against such



FISHING LAKE CAREY at the turn of the Century

powerful assailants, but that when they had exhausted that source of food supply, with turning upon and devouring their own progeny; that ultimately they would have entire possession of the streams, and that, eventually failing to find that required supply of animal food, would themselves become extinct. In proof of the latter allegation, the gradual diminutions in the annual catches in the Potomac and Susquehanna were pointed to.

"Now, all this may be true, and it may not. The friends of the black bass while admitting their ravenous disposition, stoutly deny that the bass are indiscriminate exterminators of weaker fish, or that there is the slightest evidence of diminution in their numbers, save such as can be readily traced to the deadly basket and other illicit contrivances for catching and killing them.

"They insist that as far as the Susquehanna and Delaware are concerned, the minnows destroyed by the bass are those which depredate upon the spawn of the shad and the perch, or wall-eyed pike. Moreover, they contend that if the rivers were depopulated of minnows, it would pay the State handsomely to hatch shad largely for the special purpose of supplying food for the bass.

"From this it will be seen that this fish may not be as black as it is painted. Stronger evidence than has yet been presented is wanted by the board before determining what course shall be pursued.

"About this time a gentleman residing on the Susquehanna, a very strong friend of the black bass, came forward in defense in a letter to the Board of Fish Commissioners. In it he says:

"There is a very decided increase of the native salmon, pike-perch, or wall-eyed pike, in this river. Last year (1878) hundreds were taken, averaging a foot in length and about three-fourths of a pound in weight. This increase is accounted for by the fact that the bass destroyed the small fish that preyed upon the eggs of the pike. If the laws as now on the statute books against fish-baskets and nets are enforced, these fish, which grow to a weight of ten pounds, will naturally increase. Until that is done, there is no room for the hope that there ever will be a material improvement in the product. Last fall, at the dam below Sunbury, there was taken out in a single night by one of those infernal machines and seines, no less than fourteen hundred pounds of bass and salmon. In other parts of the main river, and in the Juniata, the average catch of each basket at night, when the water was about three feet above the ordinary height, was at least fifty young salmon, about twelve inches in length.

"Another gentleman reported to the board that he had seen two bushels of young bass taken from a single basket in one night. Another, that a man of his acquaintance fed five bushels of young bass to his hogs in less than one week.

"That whatever fall-off there was in the supply of black bass was due almost entirely to fish-baskets and other illegal devices for catching them, was soon abundantly demonstrated. By vigorous measures the Delaware River was cleared of all fish baskets and traps but such a laudable result did not follow similar efforts in the Susquehanna. Almost immediately, the catches in the former stream began sensibly to increase."

The wave of popularity with fishermen that carried the black bass to undisputed favoritism as a game fish has continued unabated. Its surging fight when hooked and the savagery of its strike marked it as the ideal fish from the angler's viewpoint. The demand for bass and more bass became increasingly insistent with passage of the years. Not until 1914 was the Fish Commission able to announce definitely that a successful method had been found for the artificial propagation of this peer of game fishes. In its report for that year the Board asserted that success had been achieved by permitting the parent fish to spawn naturally and by teaching the young bass to take food while in the ponds.

The daphnia, or water flea, a tiny form of crustacea, served as the essential link to successful propagation of the black bass. The bass stocking program of the Fish Commission was a vital factor in the comeback of this splendid game fish.

At the present time the propagation of both smallmouth and largemouth bass is carried out at four of the Commission's fish cultural stations. The bass are permitted to spawn naturally and as soon as possible after the young bass become free swimming fry, a stage that takes place upon the absorption of the yolk sac, hatchery personnel remove them from their nests and place them in rearing ponds by themselves. This is done to save the brood against the natural tendency of the parent fish to devour their own progeny.

Safe in their own rearing ponds, the young bass are fed daphnia for about five weeks, after which they are fed ground marine fish and meat products and live minnows when available.

As a rule, bass are stocked as fingerlings in the fall of the same year they are hatched. At this time they range between 3 and 5 inches. For the most part, these plantings are limited to newly built or refilled lakes or in other



waters where their introduction has been determined desirable by Commission biologists. In addition the Commission collects or salvages bass from water areas or sanctuaries that are closed to public fishing and distributes them in selected rivers and ponds throughout the Commonwealth that are open to public fishing to augment existing populations.

Pennsylvania is blessed with thousands of acres of natural and man-made bass waters, and the Pennsylvania Fish Commission is continually doing its utmost to insure topnotch bass fishing and access to good bass waters for the Commonwealth's anglers now, and in the next one hundred years.

FISH BASKET on the Susquehanna River



The Facts Concerning the Production and Stocking of Warmwater Fishes

By **KEEN BUSS**

*Chief Aquatic Biologist
Pennsylvania Fish Commission*

EACH spring letters flood into the Fish Commission from all over the Commonwealth, requesting warmwater fish for ponds and lakes. Each spring the same answer goes out. We will stock as many areas as possible, but warmwater species are limited. Besides, it is a policy of the Fish Commission to attempt to restrict the stocking of warmwater fish such as bass, bluegills, crappies, sunfish, walleyes and others into reclaimed lakes or new impoundments where we know they will do the most good, or to situations where the existing population has been severely depleted by winter kill, pollution, or other catastrophe.

This doesn't sound like a very reasonable policy to most people, because they always come back with the query, "You stock thousands and thousands of catchable trout each year, why not stock bass or other warmwater fish in the same numbers?"

It is true that great numbers of catchable trout are stocked each year. It is also true that with trout, stocking is a very useful and successful management tool, but there is no comparison in the ability of the Fish Commission to stock trout and warmwater fish or in the results obtained.

For instance, because of the method under which they can be reared, 97,000 pounds of trout can be reared per surface acre of raceway! Do you know how many pounds of warmwater fish can be reared in a propagation pond? It would add up to about 200 pounds average, with about 400 pounds of fish maximum per acre.

To rear 755,000 pounds of warmwater species (755,000 pounds of trout were produced in 1964), it would require about 3,770 acres of ponds, or about 4 times as many acres as our largest natural lake, Conneaut Lake.

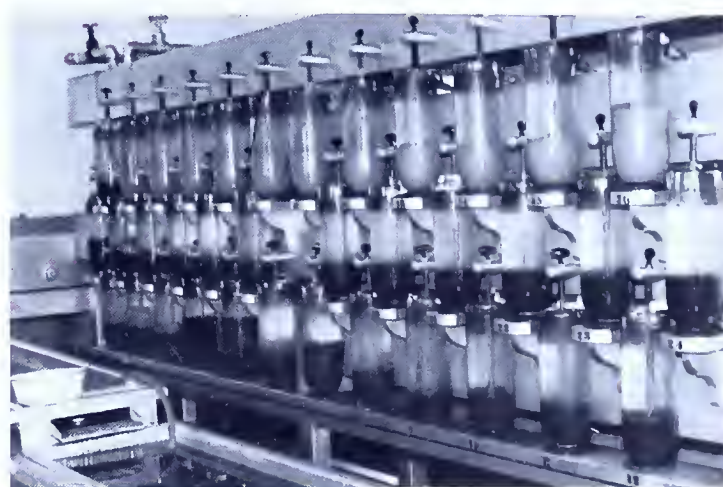
Feeding is also involved besides the space and facilities problem. Trout will take a prepared food made up into pellets similar to those fed dogs or rabbits or other domestic stock. However, northern pike, muskellunge, walleye, yellow perch and small fishes of all species require natural food. Almost all small fish start on minute crustaceans or zooplankton, and then change their diet as they grow older and larger. The large predator species such as muskellunge and northern pike require live fish of unbelievable amounts and exacting sizes.

If the Commission would attempt to rear and hold 100,000 muskellunge for one year or to 10-14 inches, it would require 365 million minnows of the correct sizes.

However, this is not the whole story. Trout can be



WARM WATER hatching facilities at Linesville



—Wilbur Williams Photos

reared to usable and legal sizes in one year, but warmwater fish require 2 to 5 years to reach a usable or catchable size. Let's assume that we wish to rear as many pounds of muskellunge to legal size as we do trout. A legal muskellunge in Pennsylvania is 30 inches and it would take approximately 100,000 muskellunge, 30 inches long, to approximate 755,000 pounds. Roughly 1.5 billion minnows would be required to feed these muskellunge. To raise 100,000 muskellunge would only require about 6,000 acres of water, but the pond space needed to grow



PULLING IN trap net at Linesville sanctuary



SORTING CRAPPIES

—Wilbur Williams Photo



FACES AND FISH through glass tanks of new truck

food for them would require approximately 57,000 acres or ten times the size of Lake Wallenpaupack!

The point should be clear: it is physically and financially impossible to rear any numbers of predacious warmwater fish comparable to our legal trout program.

The question people ask is, "If you can't rear them intensively in a hatchery, why don't you raise fish under natural conditions? Buy a lake. Build a lake. Anything, but rear warmwater fish more cheaply." Okay, let's take an example. We'll build a 30 acre lake and use it for propagation. If we were lucky, had a good site, and did the work with our own engineering crew, the dam would only cost about \$40,000. Since it takes three years for most warmwater fish to be of usable size we would expect at the end of three years that we would have about 200 pounds of usable fish per acre or 6,000 pounds in a 30 acre lake. If we draw this lake down 7 times, over a 21 year period, we would have produced 42,000 pounds of fish. Amortize the construction of the lake for this period, it would cost about \$1.05 a pound for fish not including anything else. This is almost twice the cost of rearing a pound of trout for one year in a modern hatchery.

"Well," they say, "if this is impossible, why not salvage warmwater fish from unfished areas such as water-supply reservoirs?" Let us see "why not." The average production of most Pennsylvania lakes is probably about 200 pounds per acre. Much of this may be made up in forage or rough fish. So this brings our total poundage per acre down considerably depending on the lake. If we use trapnets to capture the fish, many species, such as bass, will not lead into the net. Most species must be caught when they are concentrated, such as on the spawning runs which last for only a few weeks. In addition, warmwater fish cannot be handled after the 15th of May, or they perish from the effects of handling. In the fall of the year the fish do not move, therefore they cannot be taken in any numbers.

Supposing we started out in a 100 acre lake with 150 pounds of usable fish per acre. If the gods were with us, we could capture 75 pounds of usable fish per acre. The total catch for this large area would only be 7,500 pounds or the equivalent of 4 truckloads of trout. Sometimes one area will receive this many trout in the spring.

This last example was very generous. The Fish Commission salvages about 40,000 pounds of fish each year from the 2,500 acre sanctuary on Pymatuning, where no angling is allowed. These fish form the backbone for the introduction and maintenance stockings throughout the state. The point that should be made is that in this very fertile and productive water, only 16 pounds per acre can be captured and removed. This shows how economically impossible it would be to construct natural rearing areas to produce warmwater fish for stocking.

Economic and practical considerations make the rearing of adult warmwater species impractical on any scale and by any method. This means the emphasis in warmwater propagation is on producing fry and fingerlings. Large numbers of fry and fingerlings of game species are produced for selective stockings. This sounds like an easy and economical method of producing fishing in all lakes—

but is it? Let's analyze the situation.

It has been calculated that a big female bass in a one-acre pond could produce so many offspring that if all the fish hatched and survived for 3 generations, they would replace totally the water in a pond, and make it a heap more than 700 feet high.

Putting it another way, if a female bass produced 5,000 eggs, and if half were females and lived to spawn once, there would be $6\frac{1}{4}$ million fish. If we had one more spawning under the same conditions, there would soon be over $15\frac{1}{2}$ trillion bass flooding the Commonwealth. Any avid angler should cherish the thought of running barefoot over acres of a plague of bass.

No one has seen a lake quite this full of bass, and it is unlikely that such a situation could ever exist, but as ridiculous as this example might seem, it does illustrate that fish have a large number of offspring and that nature takes a terrible toll of these young fish. When we stock fry or fingerlings, we have no reason to assume that nature takes them any less than those produced naturally. Mortalities on naturally produced northern pike eggs and fry run as high as 99.93 per cent. Stop and think about that bass for a moment. If only 0.1 per cent of 5,000 eggs survived to nine inches, that would still mean 5 legal bass. It only takes two of these to replace the parents.

Let's be more practical about this. Let's take a pond which produces 150 pounds of fish per acre and assume that this 70 acre pond was shallow and spawning could occur any place. If sunfish, largemouth bass, brown bullheads, chain pickerel, yellow perch and golden shiners were present, do you have any idea of the potential egg production—i.e. potential fish for this pond? You are right, it is an astronomical figure, over a billion eggs from the pan and gamefish, not counting the egg production of forage fish.

It is quite obvious that nature is very taxing. She must be, or the world would soon be knee deep in fish. Incidentally, it matters not whether fish originate from a hatchery or in the pond, nature still takes a tremendous toll.

If somebody says, "What about trout?" they will get the same answer. Catchable, legal trout are stocked as close to the opening day as possible, because natural losses are incurred steadily for each day they remain in the streams. This is why the Fish Commission stocks as close as possible to opening day. Fisheries people learned long ago that stocking fingerling trout seldom produced a fishery. Before 1928, fisheries workers were scratching their heads wondering why the billions of fingerlings stocked since the 1800's had not improved fishing. When transportation units were perfected which would carry catchable trout, trout anglers had unprecedented success. The same story is true of warmwater fingerling program.

The point to be made is that it is almost useless to plant fry and fingerlings into an established population of fish if the species already exists in that area. The breeding potential of fish has already been established, and the natural losses which must occur, will occur on naturally spawned fish as well as hatchery fish. Artificial production can be effective if a few areas are saturated with



PEEPIN' at large Muskies



WATCHING warmwater fish tagging operation



LOOKING at freshly caught panfish



BOAT with fish shocking apparatus



WATCHING muskellunge spawning. Pond installations in background



PART OF the warmwater fleet

small fish instead of doling out a few to each water area in the state. It is quite obvious that this latter is useless, but, as some people who are in the recreation business are inclined to say, it is good publicity.

The saddest reason for stocking warmwater fish is that it is good publicity, even though fishing doesn't get better. I once had a boat landing operator tell me that when fishermen came in without fish they always asked this question: "Did the state stock this lake?" If he said "No," they said "Then the lake is fished out." If he said "Yes," the anglers pointed out that the fish just weren't biting that day. Publicity stocking is a simple solution but how can you have money to do the things that will create better fishing, if the money is spent for negative results? In this age, fishermen won't stand for this sort of philosophy for very long. What they want is a program which produces.

To go back to the letters we get each spring, we can't help but notice the requests we get for stocking the smaller community lakes. The letters are usually rather pitiful because they indicate that a dream has been shattered, the lake does not produce "fishin' for the kids," just headaches for the administrators. Much of this could have been avoided if there had been previous consultation with fisheries technicians. Small lakes, these are lakes under 100 acres, are difficult to manage because heavy fishing pressure soon unbalances them. The game fish and other quality fish are caught out and the pond reverts to a lake filled with over-abundant uncontrolled, stunted fish. The smaller the lake in heavy fished areas, the faster the deterioration of the fishing. In two, three, four, and five acre lakes it is almost impossible to maintain good fishing. Stocking may be necessary, but where are the fish coming from for the thousands of ponds scattered throughout the Commonwealth? There was a better answer at the beginning. If the lake had been designed with only a small flow entering it, and a method of draining it to remove the undesirable fish and retain desirable species, angling efforts could have been better rewarded.

If we have made it appear that all seems hopeless, and that you can't expect better warmwater fishing, we're sorry. Just the opposite is true, but we must discard the old methods and adopt the new. Yes, things have changed in fisheries in the last 20 years, just as they have changed in every other science. We have learned to use our salvaged and hatchery fish more wisely. Unwarranted pressures often disrupt this policy, but in general, there is more understanding each year. However, the best and cheapest method of all to improve warmwater fishing is to manipulate the environment and the species. We can create strong year classes in the lakes each year, and we can remedy poor previous management. How? That's a follow-up story which is quite intriguing and puts a new slant on using warmwater hatchery fish.

WHAT IS AN ANGLER?

By JIM HAYES



IT HAS become almost a custom in recent years to use the word angler interchangeably with fisherman. This is a serious mistake, just as it is a mistake to confer the title sportsman on all those who fish and hunt. You do not have to spend a great deal of time in the outdoors to know that not all fishermen and hunters are sportsmen. In the same sense, not all fishermen are anglers.

The word itself, angler, is derived from the word angle, which means a rod and has nothing to do with angleworms. One of the earliest uses of the word occurs in Juliana Berners' ancient manuscript, *A Treatise On Fishing With an Angle* (1496). This work deals with fishing with rod and line, as opposed to fishing with nets, spears, and handlines. It is concerned with fishing as a recreation or sport.

All the early books on sport fishing were careful to make the distinction between fishing and angling. Some of the titles include *The Arte of Angling* (1577); Thomas Barkers' work of the same title (1651); Izaak Walton's *The Compleat Angler* (1653), and Col. Richard Venable's *The Experienced Angler* (1662).

In our day, the tradition is carried on by the Pennsylvania Fish Commission through the title of its official publication—*The Pennsylvania Angler*.

From its very beginning, the art or sport of angling represented a sharp break with the customary methods of catching fish. Whereas fishing is a means to an end, angling is an end in itself. Instead of being concerned primarily with the catching of fish, angling is concerned with recreation, enjoyment, the pursuit of a sport; the actual hooking and landing of fish is only incidental.

Fishing is, of course, an old and honorable occupation. Without fishing, our world would be deprived of a substantial part of its food supply. Practically all of the fish that is consumed for food is taken by fishermen. But that has absolutely nothing to do with angling and anglers.

What is an angler? Lewis Douglas, former United States ambassador to Great Britain, once defined an angler as follows: "An angler is a gentleman; he is a courteous man with a taste for the arts; a person who loves the countryside."

This comes close to being a practical definition. For an angler is, first and foremost, a gentleman. He could never be otherwise. But Douglas' definition might also be

applied to a person who loves wildflowers and attends outdoor concerts. Obviously, it can be enlarged upon.

An angler is a gentleman. He is a person who loves the sights, sounds, and smells of the countryside. He is a person who is almost instinctively drawn to water. He is a lover of brooks, streams, lakes, ponds, and rivers. He has a deep sense of appreciation.

The true angler has a sense of awareness of the traditions of his sport. He is likely to be familiar with such names as Izaak Walton, Edward R. Hewitt, George La Branch, Theodore Gordon, and James Henshall.

An angler is a learned man. He may possess no college degrees, nor even have attended high school. But he is learned in his sport. He is widely read on the subject. He has an inquisitive mind. He does a lot of experimenting. He is a master of streamcraft. He knows the ways of fishes.

If you were to calculate all the knowledge required to acquire a Ph.D. degree, and stack alongside it all that a truly complete angler must know, all the skills involved, the difference would not be very considerable. You could take the world's greatest surgeons, the greatest nuclear scientists, the greatest mathematicians, and it would take months, even years, to make of them proficient anglers.

An angler may be a dry fly purist, a spin caster, or a bait fishing specialist. He may be a follower of the "fish-for-fun" philosophy, releasing every fish he catches, or he may creel a few. He may be partial to trout, bass, pickerel, or catfish. One thing he is not. He is not a snob. Being a gentleman, he is respectful of the rights and opinions of others.

An angler feels a sense of responsibility to his sport. He is concerned for its future. He is a true conservationist. Because he is so in love with angling, he wants to see it passed along to future generations. He is the kind of fellow who takes a delight in helping a boy get started.

But—above all else, an angler is a gentleman and a sportsman. Not just in the pursuit of his sport, either, but in his day-to-day life. Angling is a philosophy, an approach to living, which is carried over from everyday living and applied to the pursuit of a sport. An angler is a good man, angling.

Surgical Tools Aid The Fly Tier

By C. BOYD PFEIFFER

SOME of the most annoying problems in fly tying concern the tying of ultra small flies. Many competent tiers hesitate to tie small No. 18, 20 and 22 flies due to the difficulty in handling the dainty materials with regular fly tying tools. Other tiers have all but given up fly tying because they can't get a really sharp pair of scissors or a good fly tying lancet with razor sharp replaceable blades. Tools are available to solve these annoying problems, but they usually can't be found in the fly tying supply catalogs. They can be obtained, however, if you know exactly what you want and where to get it.

As a graduate student and instructor in the medical school of a large university, I come in contact with some of the surgical tools and scientific equipment available to the medical profession. Ironically enough, I used these tools for years and was oblivious to any fly tying use until the germ of an idea was sparked by an old friend.

It was Gurney Godfrey, an avid fisherman, hunter, fly tier and photographer who first opened my eyes to the fly tying uses of these instruments. Gurney works for the Bethlehem Steel Corporation in Baltimore, Maryland and also makes his home there. Much of his spare time is spent teaching others about fishing and for a number of years he has been the executive vice president and guiding light of the Brotherhood of the Jungle Cock—an organization devoted to helping boys get started in fly fishing. He is also well known to Pennsylvania anglers and last year received the coveted Order of the Hat Award from the Harrisburg Fly Fisher's Club for his work with The Jungle Cock. Several years ago, I was assisting Gurney at a series of fly tying classes when he revealed that his favorite pair of fly tying scissors was a pair of fine point surgical scissors. This one remark started me thinking about the way other related surgical tools could be used in fly tying.

After that night of classes, I also realized that some of these tools had been used by fly tiers before. Helen Shaw, one of the great fly tiers of the world, is shown using a special type of artery clamp, called a serafine, or diffebach hemostat, in her book FLY-TYING (Ronald Press, 1963). She fails to mention this instrument by name, yet her use of this tool as hackle pliers is no small recommendation.

Let us take a look, then, at some of these surgical tools and see how they can help in fly tying. Later on, we will tell you where and how to get them.

SCISSORS—Many tiers like several scissors for several types of work. A fine pair with straight, sharp points is good for most fly tying procedures. Scissors of this type come about 4" to 5" in length with a 1" or 1½" blade and are commonly called iris scissors in the profession. For a chrome- or nickel-plated pair, the going rate is roughly

\$1.30. Slightly heavier scissors are also made that would be quite suitable for cutting heavier materials. These are usually 4½" to 5" long and have 1½" blades. You can obtain these with either two sharp-point blades or one sharp and one blunt blade. The prices on these run \$1.50 in chrome or nickel plate. These two types will suit most fly tiers. If you wish to add a fine, curve-point pair, you can get the curved-blade iris scissors in the same sizes and prices as the straight ones.

SCALPELS—Get a good scalpel and it will equal or surpass in quality the finest fly tying lancet on the market. Fly tiers use the lancet for cutting working thread at the finish of a fly, stripping peacock herl, and so forth. Scalpels come in two basic types—one with the blade and handle in one piece, the other with a detachable blade. Although slightly higher in price the detachable-blade type is recommended for a number of reasons. First, a dull blade does not have to be resharpened (it can be, if you wish) but can be replaced by a new razor-sharp blade. Several sizes and types of blades will fit on one handle allowing a diversity not possible otherwise. The scalpel handles are made by a number of manufacturers and the most common types are designated No. 3 and No. 4. The No. 3 handle uses slightly smaller blades and is more suitable for the fly tier.

The blades that fit on the No. 3 handle and are most useful for the fly tier are the Nos. 10, 11 and 15. The No. 10 blade has a curved cutting edge and is about one inch in length, looking like a typical surgeon's scalpel. This type would be most useful in general cutting—for example, stripping peacock herl for a Quill Gordon. The No. 11 blade is also about one inch in length, but straight and stiletto-like. The No. 15 blade looks like a miniature of the No. 10, the curved cutting part being about a half inch long. The No. 11 and No. 15 would be most useful for cutting working thread at the finish of the fly or cutting body materials close to the shank of the hook. Being smaller, they permit steadier work and unobstructed viewing. Blades come in packages of one-half dozen and run about 75 cents per package. The average handle, whether it be a No. 3 or No. 4, runs about \$2.40.

TEASING NEEDLES—Used in research for separating and breaking up fine bits of animal tissue, these inexpensive tools make good bodkins for dubbing bodies and lacquering fly heads. Every fly tying book gives directions on how to make a bodkin (push a needle into the end of a small wooden handle) but if you're the lazy type, these can be bought for about 5 cents apiece. Two or three will be adequate for years of fly tying.

FORCEPS—A pair of forceps (tweezers in the layman's language) are handy for any fly tier, but a necessity for those who tie on small size hooks. This writer buys his



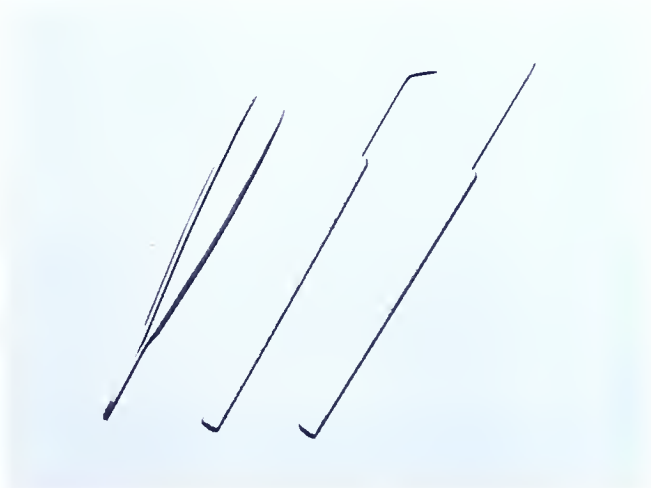
A HEAVY PAIR OF SCISSORS for coarse cutting in the center, flanked by curved and straight iris scissors for finer fly tying uses.



THE SMALLER NO. 3 scalpel handle is the most useful for fly tying. Blades that fit this handle are the very small No. 15 (top), the stiletto-type No. 11 (middle) and the most useful No. 10 (bottom).



THE LARGE HEMOSTAT to the right of the hackle pliers have many uses on fishing trips, but few in fly tying. The smaller diffebach hemostats shown in two views to the left of the hackle pliers are useful when working on small flies.



THE PAIR OF CURVED tip forceps at the left are useful in fly tying as are the two types of teasing needles, used as bodkins by the fly tier.

fly tying hooks by the hundred and keeps them in small round metal boxes or the box they came in. With forceps, I can pick out any one hook without spilling the other 99. In fact, forceps are so helpful that I find myself using them on all hooks from No. 28 up to No. 4 and No. 2. You will probably find other uses for them, but for handling hooks alone they are well worth the price. Forceps come in a variety of sizes, finishes and types of tips. I prefer inexpensive nickel-plated forceps, about four inches long with fine, curved tips. This type runs about 70 cents a pair.

HEMOSTATS—Built like pliers that can be locked closed, hemostats are used surgically to clamp off blood vessels during operations. For fly tying, this type of hemostat has few uses. The best that can be said for them is that they are small and compact and have many uses on a fishing trip. My enthusiasm runs to the opposite extreme when it comes to hemostats of a different type. These are much smaller, are spring-loaded and vaguely resemble hackle pliers. They go by a number of names, such as diffebach hemostat, serafine hemostat, artery forceps and bulldog clamps. Although they can replace hackle pliers, I find them most useful to supplement hackle pliers when tying small-size flies. I try to buy the smallest size diffe-

bach hemostat possible to use when tying No. 16 through No. 24. Being lighter and smaller than the smallest hackle pliers, they enable one to use more care in winding hackle around the light wire shank of the small hooks.

Any of these tools can be obtained in a number of different ways. Most major cities have surgical or medical supply houses. A check in the yellow pages of the phone book, or with your doctor, will locate the outfit nearest you. With this information you can visit and browse at leisure, selecting the tools exactly suited to your needs. Tell the clerk you would like to see a wide assortment of the tools mentioned and what you intend to use them for. The clerk will most likely have a few suggestions of his own. If you don't speak up it may be assumed you are an M.D., or medical technician, and know exactly what you want. If there is no supply house near you, ask your family doctor to help. He may know of a retail outlet.

When you check the catalogs, you will frequently find the metric system of measurement in use. If you haven't a metric rule to determine the length of the object being described, use the conversion factor of 25:1. That is, 25 mm. is roughly equal to one inch. For example: a pair of scissors 100 mm. long would be approximately four inches in length.

Mighty McGinty Six-pack

WHEN trout refuse to budge for a dry fly, do you persist in changing from one dry pattern to another without raising your batting average? Use a different approach. Give them a McGinty six-pack. Your chance of scoring improves immensely.

This six-pack consists of six flies, all one pattern—the McGinty—tied in the six different styles: dry, wet, woolly, nymph, streamer and fly/spinner model. If a dry fly won't move 'em, go down after the lazy lunkers with a McGinty wet fly. Still no takers? Toss in a McGinty woolly worm, or a McGinty streamer. Finish off with a McGinty fly-spinner model before leaving that pool. By running the gamut of McGinties, you're bound to hit pay dirt.

Why pick the McGinty from the many hundreds of established trout patterns? True, this pattern has long been buried in old moth eaten journals. But for one thing, this pattern isn't dead, not by a long shot. Nor is it as wierdo as one might suspect. The McGinty or Western Bee pattern strongly resembles the bumble bee, yellow jacket, honey bee and wasp which often drop into streams. The pattern even passes for a strawman nymph, and the colors are suggestive of a yellow perch minnow. There is something fascinating about the contrasting black and yellow color pattern that puts a gleam into a trout's eye, when other, more sophisticated patterns draw blank stares.

I researched to uncover a bit of early history about this pattern. One authority thinks this fly put in an appearance about the time the old song, "Down Went McGinty To The Bottom of The Sea," written by Joseph Flynn, became popular and was first sung in Hyde & Behman's Theatre in Brooklyn in the year 1889.

The fact that the color combination resembles a number of terrestrial insects in the bee family, plus its strong resemblance to a perch minnow, prompted many an old timer to use the fly for trout. It proved the undoing of many wise old browns, and surprisingly, graylings, too.

Despite much praise for the McGinty in the past, the pattern has dropped from view since its inception nearly three-quarters of a century ago. It needs reviving. Tied in a six-pack, the pattern does right well in this modern space age.

Those who revive the pattern discover immediately that it continues to take trout. When tied in the full gamut of fly styles, it is extremely difficult to beat! To be sure, a six-pack of ties such as Black Gnat, Royal Coachman or Grizzly King will produce trout too. But the point here is that the McGinty, a bright color combination that



McGINTY SIX-PACK includes six patterns of flies: Dry, wet, nymph, woolly worm, streamer or bucktail, and combination fly/spinner.

is not foreign to the natural setting outdoors, really excites trout.

The six styles of McGintys should be kept separated from the other ties in your box. The group will then serve as a reminder for you to fish through the entire group before concluding that a pool is hopeless.

Don't restrict the McGinty and Western Bee solely to trout. Smallmouth bass will turn hand springs to grab a McGinty streamer or a McGinty woolly worm. Yellow perch and pickerel get excited too when a McGinty, fitted to a spinner, spins into viewing range. In one style or another, this old bee pattern nets results.

Tie the McGinty six-pack yourself. Or have a custom tier assemble the assortment of six McGintys, or shop around the sporting goods stores until you can find a complete set of McGinties in the six separate styles. It's a sure wager that the old Irish tie will get action when other patterns fail.

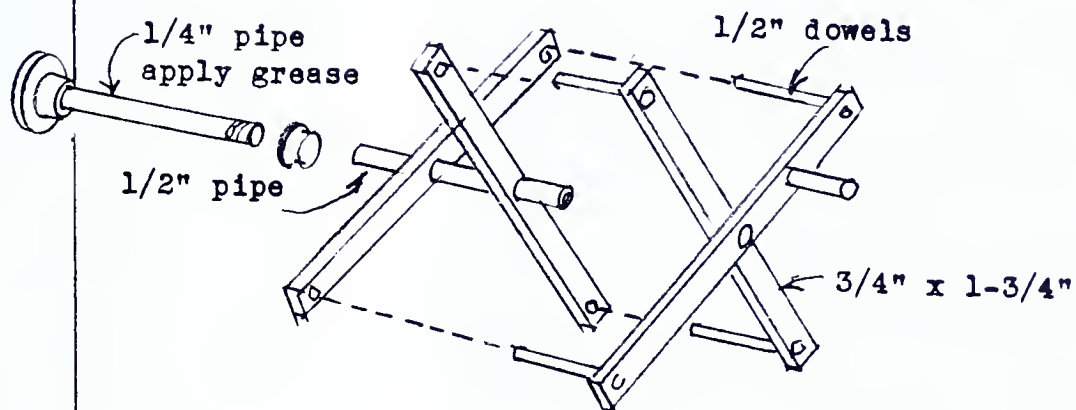
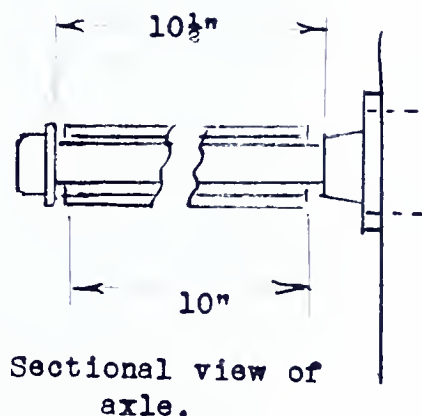
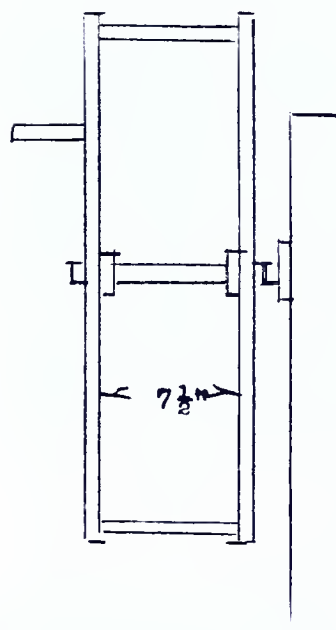
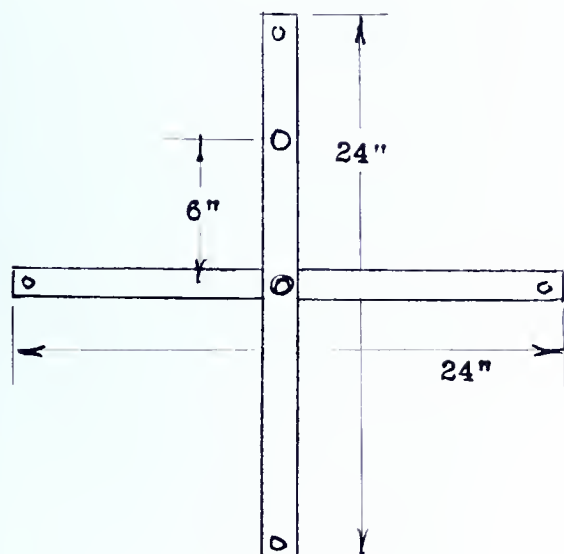
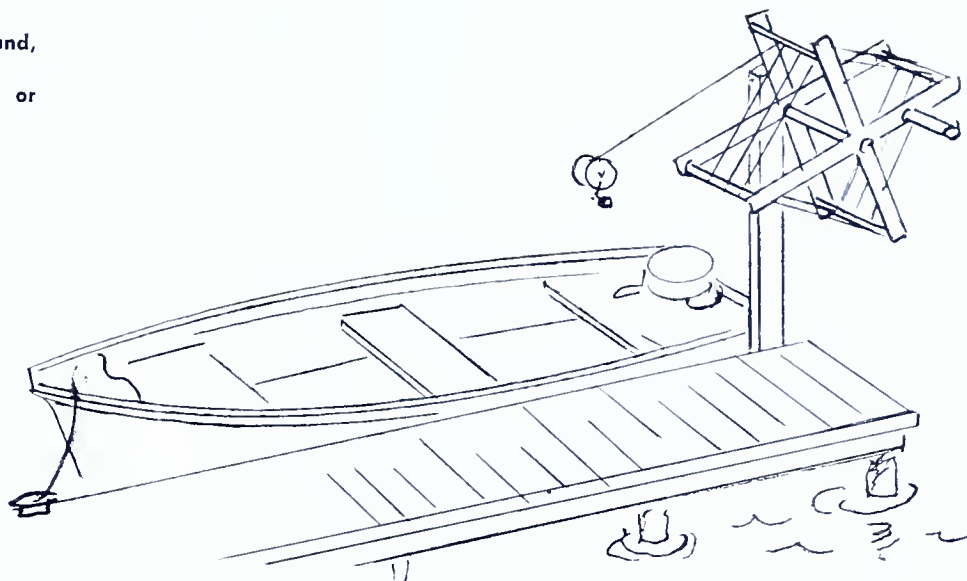
FISHLINE DRYING REEL

By HI SIBLEY

Feed the line by holding reel in left hand, cranking with right.

Reel can be mounted on a post, tree or side of building.

(The boat is only for "atmosphere")



How to Keep Yo

By CAPT. R



Figure 1.



Figure 2.



Figure 3.

How many times have you caught a nice fish, perhaps not in the record class, but still big enough that you wished you could keep it without resorting to taxidermy? Well, you can, by the simple process of making a print.

The materials needed are paper, ink, and a soft bristle brush, plus of course, a fish (Fig. 1). The best paper is the Japanese rice paper of the type used on their shoji screens. It comes in rolls, and along with the ink, can be obtained at most of the stores in the country that handle Japanese goods. Other paper can be used if it is soft and flexible enough to follow the curves of the fish without wrinkling, and will take the ink without blotting or smearing.

The ink should be a liquid carbon black. The Japanese "sumi" ink used in brush writing is ideal, however you can experiment with other inks and even thinned oils. The "sumni" ink has the advantage that it is quick drying, does not show brush marks, and is water soluble, so that after making as many prints as you want, you can wash the ink off and eat the fish—a definite advantage over taxidermy.

Almost any brush will do to apply the ink, and this being water soluble, there is no problem to cleaning the brush. Ink, paper and brush can be taken by back pack or horseback into the back country in case you catch a monster trout and want to record the catch without fighting the problem of preserving a fish for several days with-

Fish and Eat It Too

out ice. There is no cheating on the size, since every scale and ray of fin shows up exactly as it is.

The process is simple, as illustrated. First cut a section of paper a little longer than the fish, then wipe off the slime that is present on all fish to some degree. You don't have to do this to make a print, but if you intend to hang the print in the living room, your wife will appreciate the lack of fish smell. An application of salt to the fish and a wet rag aid in this operation. With the fish on any flat, smooth surface, apply the ink to one entire side, covering head, eye, gills, fins and tail (Fig. 2). Holding the paper stretched lightly in both hands, lower it straight down onto the fish, and smooth from head to tail, pressing with the fingers around the mouth and gills, and extending the fins with one hand while pressing the paper to them with the other. (Fig. 3). The ink will show through the back of the paper enough to tell you when all surfaces of the fish have been in contact with the paper. You can immediately peel the paper from the fish and see the result (Fig. 4).

If you miss some spots or don't like that particular print, simply re-ink and try again. You can make as many prints as you want. Nicely framed, they make excellent decorations for any room in the house, and of course, can be inscribed with statistics of the catch and mailed to envious friends. How else can you keep your fish and eat it too?

—NEW MEXICO WILDLIFE



Figure 4.



Figure 5.

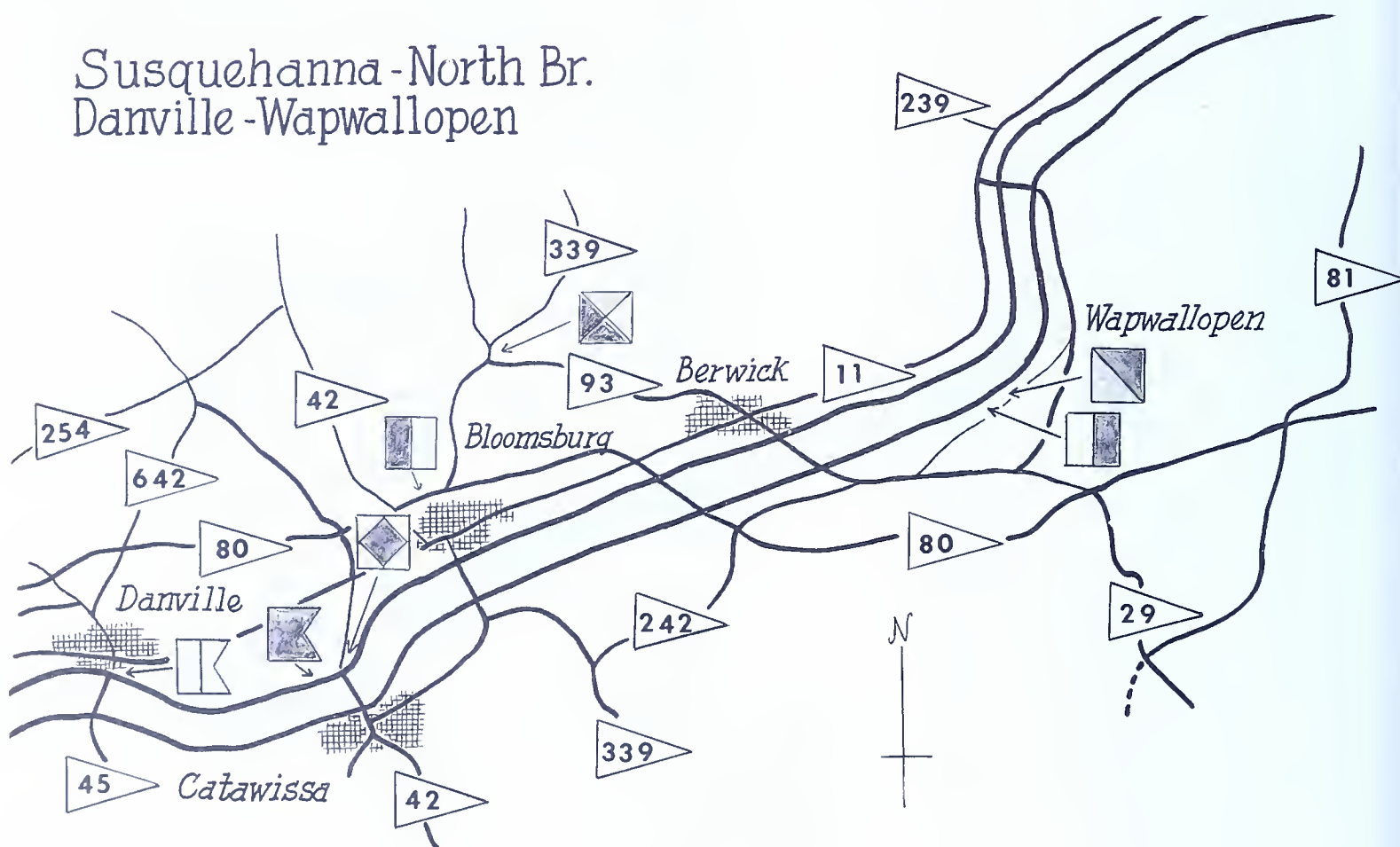


Figure 6.

DIRECTORY OF PENNSYLVANIA MARINAS

ACCESS AREAS AND BOAT RENTAL FACILITIES

By ROBERT G. MILLER



THE NORTH branch of the Susquehanna River, from Danville to Berwick, offers perhaps the last opportunity for any pleasure craft and then in only widely separated short stretches of deep water.

It is here that the river narrows, becomes quite shallow and is more suitable for fishing craft which can operate in only a few inches of water during the summer months.

However, in the spring of the year before the upstate snow waters have a chance to subside and the water level reverts back to normal, I'm informed its quite possible to travel by boat from Berwick to Harrisburg, a distance of about 90 miles.

Safe Boarding – Safe Boating



RIGHT WAY to load or unload



WRONG WAY to board but right for a dunking and perhaps serious injury

As a result launching facilities for pleasure boating, although limited, are to be found at the following locations: Danville, Catawissa, Bloomsburg and Wapwallopen.

D Danville provides two such launching areas. One is at the foot of Perry Street with accommodations for parking of autos and boat trailers. No gasoline or oil in the immediate area except at local service stations. Access is also provided at the Danville Boat Club grounds, located along Rt. 11, about two miles west towards Northumberland.

Catawissa also provides two launching sites both are situated on the north side of the river, one on either side of the Rt. 42 bridge.

O One, located east of Rt. 42 on the north shore of the river, is a beach type ramp in a wooded area maintained by the operator of a nearby service station. Parking, gasoline and oil available.

T The other, west of Rt. 72, is owned and maintained by the Catawissa Boat Club. Parking facilities available with gasoline and oil nearby.



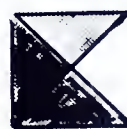
Bloomsburg airport landing, located off Rt. 11, with parking for about 100 cars. However, this area, reports indicate, is more suitable for the operation of fishing craft.



Berwick Boat Club landing, located along a township road leading north off Rt. 93, near Wapwallopen. Picnic area, parking and concrete ramp. No gasoline or oil in the immediate area and no charge for launching to members of other recognized boat clubs.



Riverview boat landing, a commercial operation, situated a short distance northeast of the Berwick Boat Club quarters. Ramp and parking with a charge for usage. Refreshments available.



For the benefit of the trout fisherman, included within the area encompassed by this sketch is the Pennsylvania Fish Commission's Orangeville Dam, at Orangeville, on Rt. 93. Access and parking areas provided.

FISHERMAN'S FAIRWAY

By RAY OVINGTON

THE SHELVEING RIFFLE

WHILE this type of water is generally more present in streams, sometimes very obviously defined, it is the type of situation that is largely wasted by most fishermen, particularly fly casters. In most instances the angler usually wades where he should fish and fishes where he should wade. Properly approached at various seasons, particularly when a good fly hatch is on, the shelving riffle can produce action aplenty without much casting or moving about. Even when the fish are not moving, the knowledge of proper approach and presentation here can bring fish to the hook with comparative ease.

During the various times of the day and throughout the progress of the season, the trout will be found in specific areas, and thus it becomes obvious that these migrations must be known in order to fish it properly.

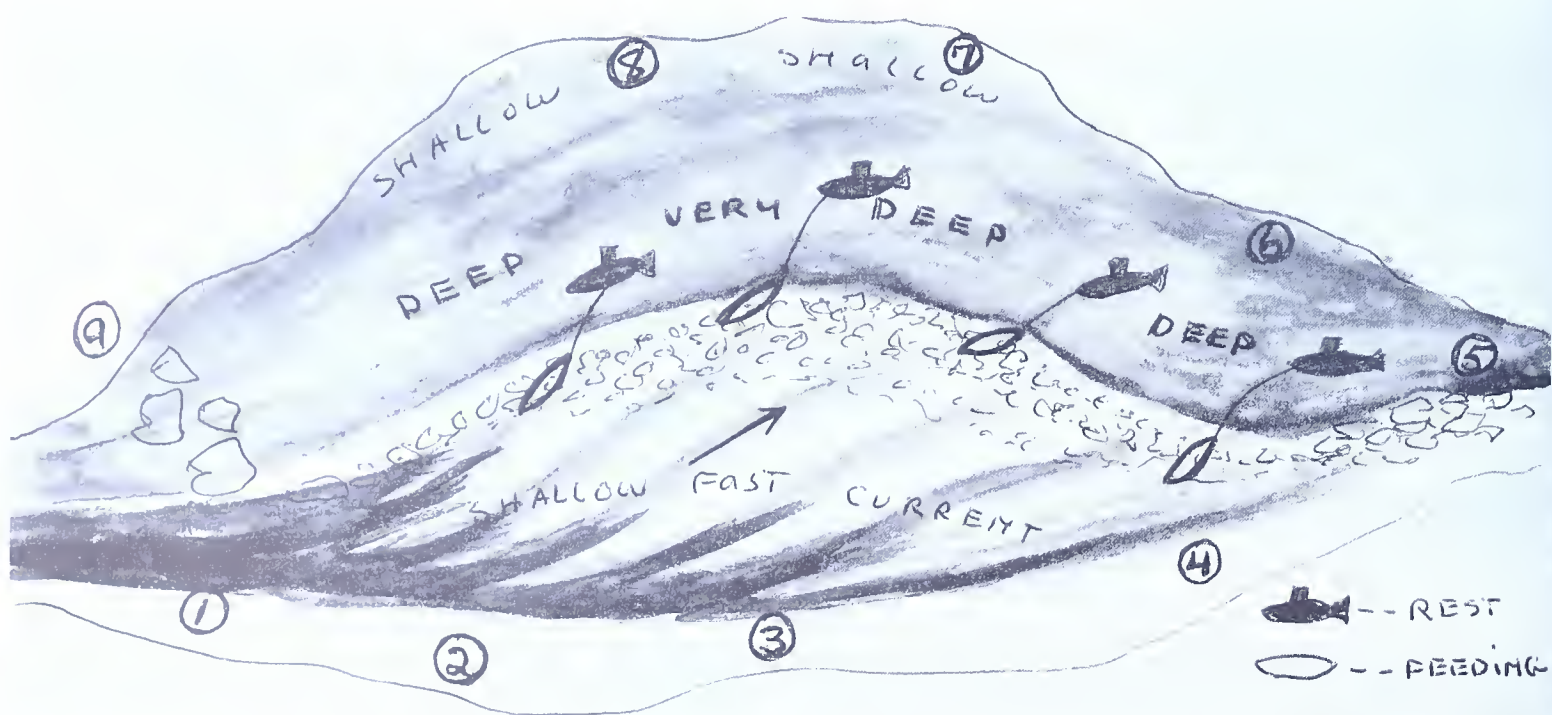
You'll note, from looking at the diagram that the current is swinging to the left, over a medium-deep gravelly section with no place for the fish to hide or even rest. They will work into that area only when inspired by a hatch of flies, but even then, they usually hang below the riffle.

The current fans out over the length of the entire pool spreading off the shelf into the deeper water where the fish tend to rest easier, in the bright time of the day, or to feed on the surface during a hatch. They will also be found rooting around for nymphs and larvae. When this action is seen, nymphs should be fished on a weighted leader, the cast made from above and the flies allowed to bump down on the bottom right into their very noses. A bucktail can be worked in like manner, with very little action, but fished right on the bottom. Very small spinning lures, probably a small spoon can be raked slowly by them. If a fly hatch develops in the pools above the riffle will drift all across the riffle. Those resident flies that hatch will do so right at the lip of the shelf and will be found flying and alighting the water just where it breaks. As is the habit of aquatic flies such as the caddis and mayfly, they will automatically fly upstream, and as we said, the trout will sometimes follow them up over the lip into the thin water above the actual riffle.

Only when the hatch is well in progress and the flies are drifting down from the fall-off should the center of the pool be worked. Certainly it should NOT be waded!

The pool shown is approximately fifty yards long and thirty yards wide. It should be studied for a moment before starting to wade and fish. The right bank would be hard to fish from unless you use the roll cast, since the brush would be in your backcast as you worked your way up. The best place to wade is below the riffle, but that is where the trout are and if you were to wade right into them, up through the middle, every trout in the pool would be disturbed.

In the early spring when the water is fast and deep and the riffle hardly shows, it is difficult for the fly fisherman to sink his flies while fishing downstream. He should fish it this way, however, even if he has to weight the nymphs or use a slightly weighted bucktail. When no fly hatches are evident later, and the sun is bright, a small bucktail



AN EXPERIMENT WITH STEELHEADS

By **CAL KERN**, Chairman, Steelhead Committee

LEHIGH COUNTY FISH AND GAME PROTECTIVE ASSOCIATION

The project took its initial step with a meeting of Cal Kern, Commissioner Raymond Williams and C. Robert Glover of the Conservation Education Division of the Pennsylvania Fish Commission, on June 14, 1960 at the Lehigh Valley Club. Mr. Glover was requested to ask the Fish Commission if they would try to obtain steelhead eggs from a source on the West coast. On July 6, 1960 a reply was received from the Commission stating that they felt the cost involved would not warrant such

worked properly can take trout from the deep side of the riffle fished in the following manner.

The fly man starts at the top working down to position (1) casting across and slightly down stream, placing his fly to the lip of the riffle, throwing an additional mend of line to let the lure work in naturally in the drop off. He doesn't try to work the whole stretch from this position as a long line is difficult to handle while keeping the flies working in a lifelike manner. To continue to work the edge and maintain a fairly taut line, he moves along to position (2) casting in the direction of (9) and (8) and then, (7). From (3) he casts in the direction of (8) to (7) to (6) but concentrating not on the deep water but on the lip of the riffle. The center of the pool is as yet untouched. The far bank is left alone for the while. When the water is low, he should not wade any closer to the riffle in order to cast, but should stay back, particularly on a bright day, for the trout are all headed into the water looking in his direction and the slightest disturbance will send them scurrying into the deep water and out of the mood to strike. When the hatches start in the afternoon and the shadows begin to lengthen he should proceed from (4) to (5), and turn to light leaders, small wet flies or, if there is any surface action seen, use the dry fly and work the flies upcurrent over the riffle so that they drift down over the hot ridge and into the deep part of the pool. He should not try to cover too much water, saving each section as he proceeds to (6), (7), (8). If the water is high he'll have to stick close to the bank and roll cast but when the water is down a bit he can wade into the deeper part of the pool very slowly. If he does so quietly, he will not send all the trout to the little deadwater at the top of the pool, but will have good fishing all the way up.

This is an obvious pool to the spincaster. From (1) a light spinner can be cast into the deep water and retrieved to the ridge and from (1) he can cover everything from (8) to (6) and from (3) he covers from (8) to (5). (See diagram.)

a project. Commissioner Williams kept insisting that the project had merit and finally persuaded the Commission to try to secure the necessary eggs. On November 22, 1960 a letter from the State of Oregon was directed to Albert Day, Executive Director, whereby they informed the Pennsylvania Fish Commission that necessary steps would be taken to try to obtain 10,000 eggs for our project.

At a special meeting with the Queen City Trout Rearing Committee, in June of 1960, our Association was granted permission to use the ponds at the nursery for raising the fingerlings. The Association was to pay for all the food used for feeding the steelheads while being held at the nursery.

In January of 1961 a committee of ten was formed to oversee the steelhead project. The committee members were as follows: Cal Kern, Chairman, Commissioner Raymond Williams, Fish Warden Norman Sickles, Thomas Beidler, Herman O'Neill, James Biery, Homer Wambold, Donald Jacobs, Carl Weiner and Richard Jacobs.

Early in 1961 approximately 35,000 eggs were shipped by air freight from Oregon to the Pleasant Mount Fish Hatchery in Wayne County. On September 8, 1961 we received word from the Commission that the fingerlings were ready to be shipped to our local nursery. This being a new venture for the Committee we asked that shipment be delayed until the first week in October so that we could clean the ponds and make any necessary repairs. On October 2, 1961 at 11:00 a.m. we saw our first steelheads (20,000 small fingerlings in size of $\frac{1}{2}$ " to 1"). Being smaller than the usual fingerling trout, the caretaker, Dan Jacobs, encountered quite some difficulty in getting the fish to feed. The mallard ducks and blackbirds found the small fish to their liking and kept the people at the nursery quite busy trying to protect the steelheads. After the fish started feeding it was readily observed that these fingerlings were wilder than ordinary trout and seemed to travel through the ponds in schools.

Several meetings were held by the Committee and Mr. John Parvin, Superintendent of the Federal Lamar Hatchery, and Keen Buss, Fishery Biologist of the Pennsylvania Fish Commission, were requested to tell us the best time of the year to stock the fish. Both agreed that the fish should be stocked early in Spring. The initial supply of steelheads was too small to stock in the Spring of 1962 and we were forced to hold them until the Spring of 1963. The right ventral fin was clipped on February 9, 1963 and the fish, ranging in size from 8" to 15" were released on February 23, 1963. As the opening day of trout season approached it was quite evident that a lot of these fish were still in the Little Lehigh Creek. Posters were printed showing the fin clipped and a plea was made to all fishermen to return, unharmed, any steelheads caught on opening day. The first day of trout season struck with

Lehigh County Fish & Game Protective Association
STEELHEAD PROJECT

Fingerlings Received From Penna. Fish Comm.			Fin Clipped		Steelheads		Released		Size of Steelheads Released	Average Size	Nursery Water Temper- ature	Stream Temper- ature					
Date	Size	Number	Date	Type Fin	Date	Number	Area of Release										
10/ 2/61	½"-1"	20,000	2/ 9/63	)	2/23/63	500	Little Lehigh-Swinging Bridge	" -Flat Bridge Big Lehigh River Linde Air Products Delaware River-Easton Little Lehigh-Water Works " -Covered Bridge	8"-15"	11½"	50°	56°					
			")	")	")	500	"										
			")	Right)	")	500	Big Lehigh River										
			")	Ventral)	3/ 2/63	300	Linde Air Products										
			")	)	")	1,300	Delaware River-Easton										
			")	)	3/ 9/63	750	Little Lehigh-Water Works	" -Covered Bridge	8"-13"	9"	51°	59°					
			")	)	")	750	"										
			")	)	")	4,600	"										
Total		<u>20,000</u>															
7/ 9/62	¾"-1¼"	10,500	9/14/63	Left	9/14/63	3,767	Little Lehigh-Swinging Bridge						Little Lehigh-River-Easton (A.M.) Big Lehigh River- (P.M.)	4"-8½"	7"	50°	54°
11/2-/62	2"-4"	8,600	")	Ventral)	11/24/63	1,000	Delaware River-Easton (A.M.)										
			")	)	")	1,635	Big Lehigh River- (P.M.)										
Total		<u>19,100</u>				<u>6,402</u>											
7/24/63	1"-2"	20,000	5/ 2/64	Right &	5/ 2/64	1,000	Big Lehigh River	Little Lehigh-Nursery Water Big Lehigh River Little Lehigh-Nursery Water	4"-6"	5"	50°	52°					
			")	Left)	")	6,500	Little Lehigh-Nursery Water										
			5/ 3/64	Ventral)	5/ 3/64	1,000	Big Lehigh River										
Total		<u>20,000</u>				<u>3,500</u>	Little Lehigh-Nursery Water										
						<u>12,000</u>											
6/25/64	1"-2"	20,000	2/ 6/65	Right	2/ 6/65	5,978	Little Lehigh-Nursery Water	Little Lehigh-Nursery Water " -Flat Bridge	3"-7"	4½"	51°	53°					
			")	Ventral &	")		"										
			")	Adapois	")		"										
Total		<u>20,000</u>				<u>5,978</u>											
6/24/65	¾"-1½"	42,000	2/26/66	Right	2/26/66	5,000	Little Lehigh-Nursery Water	" -Flat Bridge	3"-7"	4½"	51°	53°					
			")	Ventral)	")	8,500	"										
			")	)	")	13,500	"										
Total		<u>42,000</u>															
Grand Total		<u>121,100</u>				<u>42,480</u>											

NOTE: Nursery area of Little Lehigh closed April 4, 1964

Report Submitted 3/21/66 by
Cal Kern, Chairman, Steelhead Project

mixed emotions as it was clear that some fishermen could not see releasing 12" to 15" fish. These fish ended in the frying pan and never had a chance to help in our experiment. Other fishermen proved to be real sportsmen as they released any steelheads they caught and also tried to persuade fellow fishermen to do likewise.

On July 13, 1962 we received word that we were to receive only 10,000 fingerlings. The Committee felt that this would not allow any surplus fish should we be hit with disease. We also learned that approximately 10,000 fingerlings were being held by the Fish Commission for later transfer to Lake Erie. After considerable discussion and correspondence we finally received word on October 5th that we would receive the additional fingerlings. In May of 1963 we were unfortunate to have the steelheads hit with a gill infection which resulted in a mortality of more than 10,000 fish. Rather than take any chances of losing additional fish it was the recommendation of the Fish Commission that we stock the fish immediately after the close of the trout season. The Committee felt it would be proper to ask the Fish Commission to close an area of $\frac{3}{10}$ mile to protect the steelheads stocked in September and November, 1963. These fish ranged in size from 8" to 13" and it was the feeling of the Committee that should the fish remain until opening day of trout season, too many fish would be caught and not returned. On February 28, 1964 we received permission from the Commission to close the area next to the hatchery. This action was not received favorably by all fishermen but it was a decision that proved very beneficial to the experiment. These steelheads in the nursery water could be watched very closely and remained in the area until late May at which time they started their migration.

It was the feeling of the Committee that we should stock the fish at a smaller size, if possible. Due to receiving the fingerlings too late we were unable to do this until May, 1964 when we stocked 12,000 steelheads in size from 4" to 8 $\frac{1}{2}$ ". These fish started their migration shortly after release and could easily be followed in their downstream run.

In January, 1965 we were informed by Robert J. Bielo, Executive Director, Pennsylvania Fish Commission, that due to poor runs of steelheads on the West Coast we might not be able to get eggs for the last year of our five-year cycle. Through the untiring efforts of Mr. Bielo we received word on March 5th that eggs would be available from Tacoma, Washington. On June 24th we received 42,000 fingerlings for our final year. In August and September we were hit by another major gill disease. This one was the worst we had encountered in our five years. Through the tireless efforts of the caretaker, Ernie Masini, Fish Warden Norman Sickles, Joe Samusevich, Tom Beidler, Ken Crilly and Hayden Tinsley, the fingerlings were brought through. On February 26, 1966 we released our largest number ever—13,500.

Various members have asked for certain information on the project and I am listing the various dates, release points, etc. on the attached sheet. In addition to the attached sheet it might be of interest to know that the experiment cost our Association \$2,719 for food and \$423

for other operating costs, or a total of \$3,142. Pro-rating this over the six year period, it amounted to approximately \$500 per year. You should also note that 5,575 *free* man-hours were involved. There were 29 letters written and 48 letters received. Approximately 3,210 phone calls were made or received during this period concerning the experiment. Requests were received from 17 civic groups and other associations to have someone from the Committee appear at meetings to speak on the steelhead subject. 63 articles concerning our project appeared in local newspapers and in one national magazine.

Space will not permit us to mention all the people who helped in this project; however, special mention must be given to the following:

Raymond M. Williams—Pennsylvania Fish Commissioner

Albert Day—Former Executive Director, P.F.C.

Robert J. Bielo—Executive Director, P.F.C.

Keen Buss—Biologist, P.F.C.

Norman Sickles—Fish Warden, P.F.C.

John Parvin—Superintendent, Federal Lamar Hatchery

Green Walk Trout Hatchery—Use of tank truck for stocking

Queen City Trout Rearing Committee—Use of nursery facilities

Charles Nehf } Newspaper articles and publicity
Homer Wambold }

City of Allentown—Water analysis

Officers, Executive Committee and Members—Physical, moral and financial support

Approximately 300 steelheads will be kept at the local nursery for further study and experiment.

Now that the last fish have been stocked we will wait until next winter to see the results of this experiment. Reports have been forthcoming of large steelheads being caught in the Delaware River. Should anyone know of any large fish being caught, 25" or better, have the person get in touch with a member of the Committee, officers or Executive Board member. The Association is giving a cash reward for the first fish caught that has returned from the ocean.

Nature certainly plays an important part in such an experiment. Pollution is one of the greatest obstacles. In recent years great emphasis has been placed on clean streams and as each year rolls by our chances of establishing a steelhead run become better as water conditions are more favorable in the Delaware and Lehigh Rivers.

It is hard to realize the interest that was shown in this experiment. The cooperation given to the Committee was almost unbelievable. The Steelhead Committee has put forth its best efforts on this project in the cause of conservation. To all of the members, friends and organizations that have worked with us during the past six years, we offer our most humble "thanks." May your faith and efforts not have been in vain.



MODERN CAMPING

By DEL and LOIS KERR

PYMATUNING STATE PARK — PENNSYLVANIA DEPARTMENT OF FORESTS & WATERS

Stocky-built Ray Azzato, Resident Engineer at Pymatuning State Park in Crawford County, shows more than passing interest on the subject of camping. And for good reason. He is involved with more campers at one time than any state park supervisor in Pennsylvania.

The huge park offers choice of 680 campsites in open, shaded, lakefront or wooded sections. With its many coves and inlets, fishing right from your campsite is possible in many spots.

Pymatuning, an Indian name meaning "The Crooked Mouthed Man's Dwelling Place", is the result of many years of study. Ideas for reclaiming the vast swamp were originally conceived in 1865. Work began in 1929 but was not completed until 1934.

Twenty-five miles of highways were submerged when the reservoir gates closed. More than 16,400 acres of water backed up, cutting a swath between Pennsylvania and Ohio, creating a lake sixteen miles long with a 70-mile shoreline. It is the largest artificial lake in Pennsylvania.

Last year, over two and a half million people enjoyed the many recreational facilities throughout the Pymatuning area. Activities include tent and trailer camping, swimming, outstanding fishing—just about anything that strikes your fancy. The famous spillway section rated mention in Ripley's "Believe It Or Not"—it is so crowded with fish that ducks often walk out of water on the fishes backs!

Situated on the "Atlantic Flyway", migratory waterfowl find the area an ideal stopping point during their flights North and South. As many as 70,000 ducks have been observed in one single day at the height of the migration. It's not uncommon to have investigating geese parade right through your campsite! And for the ornithology-minded group, more than 250 species of birds have been recorded throughout the sector.

A beautiful display of waterfowl and native birds mounted in lifelike positions are seen at the Wildlife Museum, located just north of the spillway on 103-acre Ford Island. Just north of the museum, the Pymatuning Fish Hatchery affords the camper opportunity to observe the processing of eggs and the interesting hatching ponds. There are ample parking facilities and no admission charge at either hatchery or museum.

These and many other attractions draw campers from distant points. We asked Mr. Azzato about camping conditions. "It gets crowded at Pymatuning", he said, "especially on mid-season weekends. We had 28 capacity days last year. But to the best of my knowledge, no one has ever been turned away. However, I would recommend that campers arrive no later than Friday noon in order to get a really good campsite."

The park maintains three separate camping areas plus one area for group camping. Jamestown campground, with 450 sites, is by far the most popular. It is located off U.S. Route 322 near the Ohio border. You may select wooded



sites or set up camp on the lake shore. Many sites are situated on a cove loaded with blue gills, crappy bass and perch—an ideal location for the young angler.

Espyville campground, the second largest, is located off Route 285. It contains 145 campsites, mostly in the open. The Linesville area, off U.S. Route 6 in the north-eastern section, has 75 sites both open and wooded. All three areas have drinking water and tables, but very few fireplaces. Contrary to most state parks, open fires are permitted, but must be kept small.

Sanitary facilities at Pymatuning State Park left much to be desired in the past. That, however, is changing. Construction of a new shower-house and flush-type sanitary facilities began in the Linesville area last year. Work will progress to the remaining areas.

As a parting question, we asked our congenial host if he had any gripes about campers. He did! "The park office closes at nine P.M.", he said. "But we stay over until eleven P.M. each night on our own time. Occasionally, someone will come in during the night. You can hear them pounding stakes for a long distance. Then you have to spend two-thirds of a day checking every campsite to find the one person that didn't register!"

That, we'll bet, could be quite a wearisome task.

Education for Conservation

Since this article was written, Mr. Depoe has been elected president of the newly formed Donegal Fish and Conservation Club

IN THIS ever-changing world of ours it becomes the necessity of one and all to begin working with the youth of our community, our county, our state, and our nation. A great many changes have occurred in the many streams and water-ways locally as well as state-wide. With this in mind, a beginning or breakthrough in Lancaster County has begun.

In Mount Joy, Lancaster County, at Donegal High School a start was made to help the young people in the school and community to do something constructive as well as develop avocational skills. At the beginning of the school year 1961, a fly tying club was initiated. At first interest was rather slow to develop. There were about four boys who were consistently interested in learning. Over the next several years with a little success, we have increased the number of interested boys in both the fly tying club and the stream improvement phase of our program.

With these boys and the club in mind, it was decided to try to have a portion of the Donegal Creek established as a Fly Fishing Only project. This idea was submitted to the Fish Commission and more information on the procedures to follow was given us. The club began its work by obtaining petitions signed by licensed fisherman stating they were interested in the project which was being undertaken. The response was tremendous, and a surprisingly large number of signatures was secured, considering that it would be the first and only Fly Fishing area in the county. This method of fishing was relatively new to most local fishermen, but the support of several ardent fly fishermen in the area aided in getting the response that we did. From here it was necessary to contact the land owners through which this stream flows to see whether they would sign with the Fish Commission stating they would keep their property open for fishing. The land owners having agreed to do this, the project was then considered and approved by the Fish Commission.

The Fish Commission recommended that improvements on the stream be made in order to correct the problem of soil erosion and silt covering the gravel or stones on the stream bed. With this in mind, the group began building various types of deflectors to direct the current back to the middle of the stream, causing a cutting action in the stream bed, cleaning the silt from the gravel bed and stones, and preventing bank erosion. This project was started in the summer of 1965 and has continued until the present trout season. The work will again resume in June after school when more time can be spent on the stream.

Since the spring stocking program, interest has grown



STREAM IMPROVEMENT is one of club's projects. Mr. Depoe is at right with workers.

by leaps and bounds. The method used was the float method which was started by the Fish Commission and has been proven to be very effective, as expressed by the many interested helpers during this stocking program. The float boxes were made by the students at Donegal and will be a part of the club's properties. Upon completion of the stocking, more and more young people have shown a desire to learn to tie flies as well as to help on the stream improvement project.

The local Boy Scout troops have begun to show a deeper interest in the project. They are planning to secure barrels, paint them, and place them along the stream for litter, which always seems to accumulate along our streams. We are hoping that other activities will be introduced into the Scout's program, possibly participation in a trout raising program planned to begin this summer.

It is my opinion that we should begin to educate our youth to not only the phases of fishing and fish culture, but also to the conservation of our most valuable possession, water. Over a span of years many of the streams that once were prime trout waters can no longer be placed in that category. If the next generation is to inherit as good or better fishing than we have enjoyed during our lives, then today's sportsmen must recognize the need to not only conserve present stream conditions but to build for even better streams.

Pennsylvania's fishing need not be a one way road from the stream to the fisherman. The sportsman, also, has much to offer to the stream. A little time and effort spent now will be well repaid by many hours of relaxation and enjoyment to the future Pennsylvania angler.



Notes FROM THE STREAMS

■ While visiting a sporting goods store in Beaver Falls, a gentleman related the following fish story. He had caught a trout and wanted to return it to the water, but had nothing to cut the leader with. He decided to bite the leader off. He put the fish up by his mouth and was biting the leader when a voice from across the stream shouted, "Gosh, buddy, better cook it first."—**District Warden PAUL R. SOWERS** (Allegheny and Beaver).

■ Some of the best fishing in my district is being provided by two springfed tributaries of the Kishacoquillas Creek, Alexander Springs and Coffee Run. Although these streams are not stocked with legal size trout, we do make fall plantings of fingerling rainbow trout in them and the rate of growth, coloration and general overall condition of these fish is most gratifying. Many "limit" catches are being taken from these streams from nine to twelve inches in length. Mr. Ember Yohn, of Lewistown, took one 17½ inches long.—**District Warden RICHARD OWENS** (Mifflin and Juniata).

■ Bullhead fishing has been excellent in Shawnee Lake near Schellsburg. During the last week of April, I feel the catch was over five hundred catfish that would have measured over fifteen inches long. On April 30 I talked to one fisherman, Ralph Miller, of Schellsburg, who had nineteen inches of catfish. The reason I said 19 inches OF catfish was that he had caught one fifteen inches long that had one almost four inches long in its mouth.—**District Warden WILLIAM E. McILNAY** (Bedford and Fulton).

■ I recently accompanied boys from the Trough Creek Forestry Camp, Huntingdon County, on a field trip to the Benner Spring Research Station and the Spring Creek Hatchery. The following day these same boys helped me stock a number of trout in Great Trough Creek. There is a large stream improvement project scheduled to begin this summer on this stream with all labor being provided by these boys. This group of young men is to be commended for their interest in the field of conservation, and for their efforts to learn more about and improve the sport of fishing.—**District Warden JAMES T. VALENTINE** (Huntingdon and Fulton).

■ Jefferson County sportsmen can look forward to more fish in local streams next year, thanks to conservation-minded organizations. Three new cooperative nurseries have been approved and are now under construction. The Brockway Sportsmen's Club hopes to raise 5,000 brook trout; Seneca Trail Hunting and Fishing Club plans to produce 1,000; and Project Brookville, the Fish-For-Fun area, plans to produce 8,000 brown trout. This will bring to a

total of six cooperative nurseries for the county. Heath Township, Sykesville and Reynoldsville Sportsmen have raised fish this year. This is one more indication of the interest generated by local groups to improve fishing conditions.—**District Warden JAMES DONAHUE** (Jefferson).

■ On opening day I checked a fisherman on the Driftwood Branch who told me that he had caught several small trout and had thrown them back. I checked one of his fish which he said was just about legal. I told him the fish in his creel were all in excess of 9 inches in length. He couldn't believe this and upon inspecting his creel he found that when he had measured his fish he had used the ruler on his creel upside down and was throwing back all fish under 9 inches.—**District Warden STANLEY G. HASTINGS** (Cameron).

■ LaRue Swank, who lives just below the George B. Stevenson Dam on the First Fork was a happy angler on opening day. He caught five trout in the morning, one 18 inches, three trout 20 inches, and one 23 inches.—**District Warden STANLEY G. HASTINGS** (Cameron).

■ On opening day of trout season three anglers from Pottsville went to Spring Creek in Lehigh County, their favorite stream. They arrived about 3 a.m., unloaded their gear, set up a grill in all readiness for the starting hour. At 4:45 a.m. one of the trio went down to inspect the stream and with a weak bawl . . . "Hey, fellows, there's no water here!" Sure enough, the creek was dry, completely dry. This illustrates the toll the drought has taken in many areas. Even with heavy rains not one drop of water, at time of writing, has flowed in Spring Creek this year.—**District Warden STANLEY PAULAKOVICH** (Northampton-Lehigh).

■ Two men from Scranton were fishing the Delaware River for smallmouth and had made a fair catch. Just north of Equinunk there is a nice spring that crops out of the river bank, so they took some stones and made a small dam in the spring and put five bass in the cool water to keep them fresh for their return home. I parked my car and started over the bank, and as I did I saw a crow flying to a nearby tree. I stopped to see what had attracted the crow. He had been in the spring feeding on the bass, just taking the side meat or fillet. The next week they came back with chicken wire to cover their pool.—**District Warden HARLAND F. REYNOLDS** (Wayne).

■ Through a panfish salvage program we have at the Forest Lake Club in Pike County, we netted some very large eels, along with bullheads, perch, calico bass and bluegills. These fish are being stocked in Drillers Pond,

a "kids pond" sponsored by the Matamoras Rod and Gun Club. I have been wondering just what will happen when one of the youngsters hooks on to one of these fighting eels.—District Warden **JOSEPH E. BARTLEY** (Pike).

■ One evening I had a consignment of fish scheduled for North Park Lake. As I was driving along Walter Road on the way to meet the fish truck, I noticed lights moving along Pine Creek. I stopped and investigated. To my amazement, a group of biology students were studying the mating habits of frogs with flashlights.—District Warden **PAUL R. SOWERS** (Allegheny and Beaver).

■ When we stocked the Driftwood Branch of the Sinnemahoning Creek this year one of the school boys assisting me found a brown trout that had been injured. Due to the fold that he had near his tail he was less than the legal limit, but when stretched out he measured about 7 inches. One boy asked me if I would arrest anyone taking this fish and I assured the lad that it would be measured in the stretched out condition.—District Warden **STANLEY G. HASTINGS** (Cameron).

■ While patrolling Marquette Lake in Lebanon County, special warden Waybright came across an angler using worms on this artificial lures only lake. The angler did his utmost trying to convince Waybright that the worm had somehow gotten on his hook while it was in the lake, but to no avail.—District Warden **SAMUEL W. HALL** (Lancaster-Lebanon).

■ The first few days of any opening trout season always brings about something unusual concerning fishermen and fish. I talked to a fisherman on Spring Creek who had caught a 23-inch brown trout and when he opened it up, he found the trout had dined on a baby muskrat. I saw another fisherman take six nice trout out of one hole where ten other fishermen were fishing, on kernels of whole yellow corn. During the first two weeks of the season, eight trout from five to nine pounds were taken from Spring Creek. The nine pound brown measured 25½ inches and had a girth of 14¾ inches.—District Warden **PAUL ANTOLOSKY** (Centre).

■ The West Branch of the Clarion River in Elk County near Johnsonburg and Wilcox, has been an outstanding area for large trout this season. On opening day we checked twelve trout measuring between 17½ and 24 inches. Since the first day, I know of at least ten more taken in this class. A 19½-inch brown trout had a 9½-inch sucker plus many minnows in it.—District Warden **BERNARD AMBROSE** (Elk).

■ A car count on opening day at eight-acre Twin Lakes in Elk County tallied up to 102 autos.—District Warden **BERNARD AMBROSE** (Elk).

■ The opening day of trout season brought out more fishermen than I have ever witnessed on Warren County streams. At least four issuing agents ran out of resident licenses the first day and one agent ran out of nonresident licenses. Two men who traveled from New York said

that they had stopped at eight issuing agents before they found a license. I met these same men later in the day and they said they were glad they came for both of them had their limit of trout.—District Warden **KENNETH G. COREY** (Warren).

■ It would seem that the chief executive of the town of Moscow is truly sports-minded. They tell me that before I took over this district Wes Franklin, who was then the Mayor, was always on hand when Roaring Brook was stocked. When Roaring Brook was stocked this year, Mayor Richard S. Lougee was very much in evidence. His honor carried many a bucket of trout from the hatchery truck to the stream, even though dressed in his best mayor's suit. Mayor Lougee is an active member of the Moscow Sportsmen's Association.—District Warden **CHARLES A. HERBSTER** (Lackawanna and Susquehanna).

■ On opening day, I heard the usual complaints from fishermen as they explained their inability to catch fish. However, they didn't bother me too much until about three in the afternoon when I stopped at a bridge near Ebensburg. The stream was lined with fishermen and on the far side I noticed my nine year old son. I asked him how he was doing, and he replied, "Not so good. Dad, are you sure you stocked this creek?" Needless to say, my son and I had a long talk that night on stream manners.—District Warden **THOMAS QUALTERS** (Cambria).

■ On a warm spring night we were observing an access area that had been getting vandalized and was badly littered with beer cans, etc. Soon after dark a car came in with three persons who turned out to be students. They began moving around the area and appeared to be looking for something or putting something in the tall grass along the edge. We were certain we had our night garbage boys until we approached them and asked a few questions. It seems they were on a scavenger hunt and had to have 30 different brands of beer cans by midnight, so they were busy filling the trunk with all the cans they could find and intended to sort them later. This was certainly a pleasant reversal from the usual nighttime activities in this area.—District Warden **THOMAS L. CLARK** (Crawford).

■ Special fish wardens usually don't get much credit for their unpaid labor. Specials White and Williams of West Middlesex begged lumber and built stiles for farmers, had stencils cut and signs printed asking the fishermen to save the fences and not to litterbug. White worked all day in a downpour helping get ready for Open House at the Linesville Hatchery. Both men are taking a boating course, and White has been selected by the Game Commission to attend their school on hunter safety. All this, plus many hours of patrol and running their own cars for nothing, makes you wonder what type of person this is, to give so much and receive nothing in return.—District Warden **RICHARD ABPLANALP** (Mercer-Lawrence).

The true fisherman approaches the first day of fishing with all the sense of wonder and awe of a child approaching Christmas.—Robert Traver, *Trout Madness* (St. Martin).



SENIOR GIRL SCOUT TROOP 389, helps District Warden Sam Hall stock trout in Lancaster County. Left-right: Jim Pence, deputy warden, Hall, Linda Doutrich, Elizabeth Feaser, Rita Beard and Martha Hill.



TYRONE SPORTSMEN'S ASSOCIATION "Big Fish" contest winners, left to right, John Rhine; Elwood Palmer, Jr.; Anthony Maisano; Junior trophy winner, 7-year-old David Gilliland and Ricky and Mark Maceno accepting trophy for their Dad, Philip Maceno.—Tyrone Daily Herald photo



SOUTHWEST COOPERATIVE NURSERY meeting held at Indiantown Gap with five cooperating clubs in attendance—Bald Eagle Sportsmen, Dunlo Rod & Gun Club, Greater Ferdale Club, Quemahoning Sportsmen and Jenners Community Sportsmen. Regional Supervisor John Buck hosted the representatives and Robert J. Bielo, executive director, Pennsylvania Fish Commission awarded certificates of participation to the clubs cooperating with the program.

CHAIN REACTION

A tip from a fisherman to fish warden Perry D. Heath of Carlisle, Pa. that illegal fishing was taking place in Perry county, started a chain re-action which resulted in ten Perry county men paying almost \$4000.00 in Fish and Game law fines and costs.

Enlisting the aid of game protector Utech of Carlisle, the two officers started the investigation. Information they received in their initial investigation really started things. Game protector Sitlinger of Perry county was then called by Heath to assist in serving two search-warrants. The searches were conducted by these two officers and game protector Jones of Perry county and Special fish warden Howell. With each operation more information was obtained concerning fish and game law violations. At this point State Trooper James Corbett of the Duncannon sub-station was called into the case, and who did a fine job obtaining confessions relative to the violations. Such co-operation by the three state agencies will long be remembered. Especially by the defendants.



ONE OF THE LARGEST brown trout ever caught in Pennsylvania is this 31¼-inch, 14½-lb. fish caught by Bob Michaels, Shippensburg, Pa. from Big Spring, Cumberland County.



SPECIAL WARDENS at meeting in Somerset recently. Regional Warden Supervisor John Buck presided at the meeting.



A CAT'S EYE VIEW of a nice trout caught opening day by Horvey Hought, 3rd, son of Dr. and Mrs. Horvey Hought, Jr., Reading. Fish seems safe as long as Sips the cat is busy lining up the shot.—Reading Eagle photo



TROUTING DAYS in Berks County—these young fellows had a ball at Antietam Lake, Berks County recently. Left-right, Joy Lotz, 12, Ronold Nein, 13, and Scott Nein, all of Reading, Pa.—Reading Eagle photo



EXPLICIT MARQUEE in Selinsgrove, Snyder County.



LEADING FIGHT AGAINST LITTERING, left to right, Robert Fostnocht, member, Pennsylvania Game Commission, Gil David, former chairman, York County Federation of Sportsmen's Clubs, Wilbur Kline, chairman, Southern Division, Cloyton Shenk, president, National Archery Assoc., and Roy Wogner, present chairman, York County Federation. Photo taken at recent York banquet.

VETERAN PENNSYLVANIA ANGLER

■ Frank J. Marter, 208 Liberty Street, Harrisburg, Pa. was born in Yugoslavia. He came to the United States when he was four years of age. Now at 81, he is just as enthusiastic about fishing as he was when a boy. His father had a vineyard in the old Country and his grapes were sold to wine makers. After arriving in the U. S. he worked as a foreman for the Pennsylvania Steel Company, now the Bethlehem Steel. Young Frank started out as a steel construction worker and later was a salesman.

In 1905, he served as a Special Fish Warden for Dauphin County. He states he was an admirer of the late Governor Gifford Pinchot. He has been interested in the out-of-doors all his life. He has held membership in the Harrisburg Hunters & Anglers Club and the Hummelstown Sportsmen's club.



EARLY OUTBOARD gets attention of Virgil Schwimmer, boating chairman, Northwest Division, Pennsylvania Federation of Sportsmen's Clubs. The ancient model was exhibited at a Venango County Recreation Show recently.

DIRECTORY OF BLUE BOOK AGENTS

Additional places for subscribing to the **PENNSYLVANIA ANGLER** and where the latest and newest Pennsylvania Fish Commission **FISHING REPORTS** and **INSTANT INFORMATION** are available.

- Allegheny County**—Glenn's Sports and Hobby Shop,
4129 Brownsville Road, Pittsburgh, Penna.
- Berks County**—Kagen's Inc., Reading, Penna.
- Bucks County**—Andrew Maroney—Andy's Sport &
Hobby Shop, Yardley, Penna.
- Combrion County**—Shoff Sporting Goods, Ebensburg,
Penna.
- Chester County**—Daniel W. Bullock, Berwyn,
Penna.
- Franklin County**—P. Paul Overcash, Chambersburg,
Penna.
- Jefferson County**—Deman's Sporting Goods,
Brookville, Penna.
- Lockowonno County**—Eynon Drug, Eynon, Penna.
- Lockowonno County**—Edward Rebar, Throop, Penna.
- Lehigh County**—Gerald T. Chapleski, Allentown, Penna.
- Lehigh County**—Paul Daubanspeck, Allentown, Penna.
- Lehigh County**—Pete Nestor, Nestor's Sporting
Goods, Inc., Allentown, Penna.
- Northampton County**—Charles Schwartz, Bethlehem,
Penna.
- Schuylkill County**—Joseph Kopena, Mary-D, Penna.
- Susquehonno County**—Halls Sporting Center,
New Milford, Penna.
- Worren County**—F. J. Erich Sporting Goods Store,
Irvine, Penna.
- York County**—Harry Haines, Lincoln Highway
Garage, York, Penna.
- York County**—Squab's Outdoor Shop, York, Penna.

Tip-O'-The-Month

By C. BOYD PFEIFFER



LEADER STRAIGHTENER

A small piece of sheet rubber will make a good leader straightener for the fly fisherman. The type and size of rubber square makes no difference as long as it bends easily and does not mark or discolor the leader. The above is an old piece of rubber inner tube. A large rubber tire patch would work equally as well. Fold the rubber over the monofilament and pull the leader through the folded rubber. Two or three pulls should straighten out most leaders. You may have to vary the pressure on the rubber with the size of the monofilament. It takes a much greater pressure to straighten the heavy mono found in the butt sections of leaders. To keep from losing the rubber patch put a safety pin through a corner and pin it securely to your clothing or fishing vest.

FREE COLOR CHART

COMMON FISHES OF PENNSYLVANIA
WITH ALL NEW
AND RENEWAL SUBSCRIPTIONS
TO *Pennsylvania Angler*

Enclosed is \$..... for my (New) (Renewal)
(Gift Subscription)

1 year (12 issues) \$2.00

3 years (36 issues) \$5.00

Please send to:

Name

Address

Town Zip Code

Make check or money order payable to the Pennsylvania
Fish Commission

Mail to—PENNSYLVANIA FISH COMMISSION
HARRISBURG, PA.

Cash sent at your own risk. STAMPS NOT ACCEPTABLE.



"THAT BASS SURE PUT UP A FIGHT!"

SCHOOL'S OUT!

BY NED SMITH

MISTER UGLY

IN HOT weather, when the bass are too lazy to chase a plug or spoon, fishing can be pretty dull. Sometimes the right live bait, properly fished, will get results when all else fails.

One of the best live baits for smallmouth bass is the hellgrammite, an ugly creature that lives beneath stones and trash in fast water. A full grown hellgrammite is about three inches long. It has a flat head with jaws that can pinch, a wide collar on its neck, and a rubbery body. Along each side are three legs, and numerous things that look like legs, but aren't. At its tail end are a pair of strong, hooked claspers that can cling to rocks and sticks.

The easiest way to catch hellgrammites is to hold a minnow seine against the bottom of a riffle and have a companion lift stones and stir up trash upstream from the net. Be sure he examines the underside of the stones he raises for any hellgrammites that might be clinging there. Usually they will be washed into the net where they can be caught behind the head with the thumb and forefinger.

Many anglers bait up by running the point of the hook beneath the collar on the back of the hellgrammite's neck. Hooked in this way they stay lively on the hook. However, hellgrammites have a habit of crawling under stones when let down into the water, or grabbing underwater rocks or sticks with their tail claspers. In pulling them loose the hook often tears out of the collar.

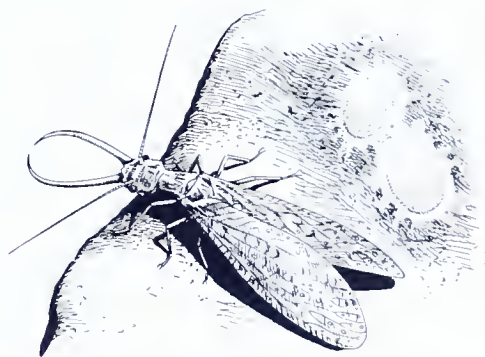
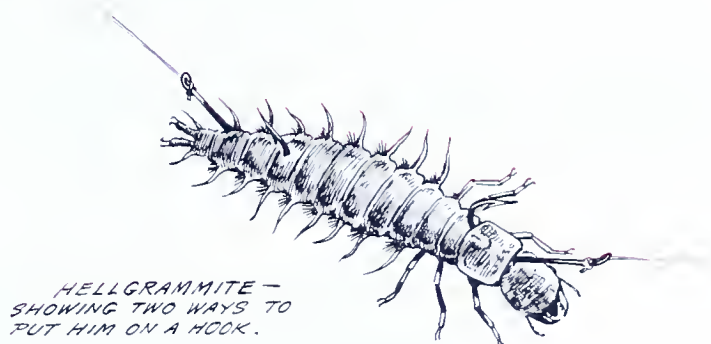
A better way is to run up through their bodies near the tail. Hooked this way they are easily pulled out of any hiding places without tearing out the hook.

Hellgrammites can be cast with practically any fishing outfit. Slow action fly rods, the kind you'd use for bugging, will handle them nicely. A light spinning outfit is ideal. If your spin-cast or plug casting outfit doesn't cast them too well add a small sinker.

When a bass picks up your hellgrammite don't set the hook immediately. Chances are he's merely holding it in his lips and doesn't have the hook in his mouth. Most bass will swim a short distance with the bait, then stop and eat it. That's the time to set the hook. If your timing is right you'll have him.

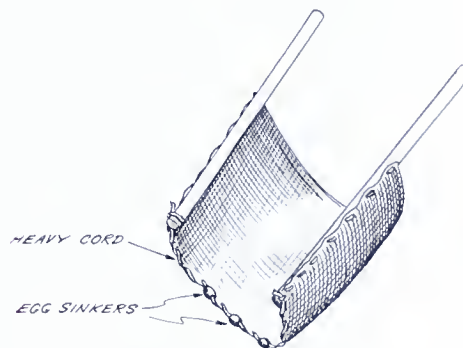
In mid-summer many hellgrammites crawl ashore and hide beneath flat rocks or logs. Here they pupate for several weeks, changing into fierce looking insects known as dobson-flies. They now have long wings dotted with white, and the males have huge, curved jaws about an inch long.

The females lay their eggs in oval patches coated with a



MALE DOBSON-FLY AND TWO EGG CLUSTERS

chalky substance. You may have seen them on stones, bridge abutments, and trees above the water. Though the patches are only about an inch in diameter, they contain two or three thousand eggs, which could result in lots of hellgrammites if fish didn't like them so well.



MAKE A BAIT NET

A good hellgrammite net can be made by ripping open a mesh onion sack and stapling or tacking it to two broom handles or other sticks. Re-inforce the bottom edge with a piece of heavy cord. Egg sinkers strung on the cord, or clincher sinkers pinched onto it, will keep the net against the stream bottom.

BIG BASS BIG BATTLE



— ADDS UP TO A —
PENNSYLVANIA ANGLER

Fishing Citation

MINIMUM CITATION SIZES:

Species of Fish	Minimum Length in Inches	Species of Fish	Minimum Length in Inches	Species of Fish	Minimum Length in Inches
American Shad	25 in.	Catfish	30 in.	Northern Pike	36 in.
Bluegill	11 in.	Crappies (includes black and white)	15 in.	Rainbow Trout	27 in.
Brook Trout	17 in.	Eel	40 in.	Rock Bass	11 in.
Brown Trout	28 in.	Fallfish	18 in.	Sheepshead	25 in.
Bullhead	15 in.	Lake Trout	30 in.	Smallmouth Bass	20 in.
Carp	36 in.	Largemouth Bass	23 in.	Walleye	30 in.
Chain Pickerel	25 in.	Muskellunge	45 in.	Yellow Perch	14 in.

RULES:

Fish must be caught in Pennsylvania public waters by legal methods during seasons open for the taking of the species involved.

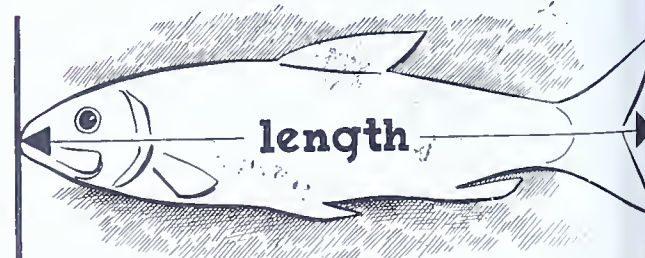
Fish must be measured, weighed and recorded by fishing license issuing agent or tackle store within the state by the owner, manager, or an authorized agent of the respective establishment.

Photographs are desirable as further proof of catch but are not required.

Non-residents as well as residents are eligible for citations if fish are caught under the above conditions.

Only fishing citation applications received within 90 days from date of catch will be honored.

HOW TO MEASURE:



APPLICATION FOR PENNSYLVANIA ANGLER FISHING CITATION

The Editor—Pennsylvania Angler
Pennsylvania Fish Commission, Harrisburg, Pa.

Date.....

Please send me the *Pennsylvania Angler* Magazine's Fishing Citation with the inscribed data listed below:

Name (please print)

Address City..... State.....

Species Length Weight

Type of Tackle

Bait or Lure Used

Where Caught.....in.....County

Date Caught Catch Witnessed by

Measured and Weighed by

At

● JULY 1966

pennsylvania angler

PENNSYLVANIA SAFE BOATING WEEK JULY 3-9

National Gold Cup



"For achievement in boating safety • • 1965"

Thus reads the inscription on the National Gold Cup award granted to the Pennsylvania Fish Commission's Office of Watercraft Safety by a national panel of eminently qualified judges in recognition of the state-wide education programs, waterway marking system, regulations and enforcement-education programs by well trained patrol personnel.

PENNSYLVANIA STATE LIBRARY
DOCUMENTS SECTION

JUL 18 1966

**BOATING
ISSUE**



GOVERNOR WILLIAM W. SCRANTON signs "LET'S GO FISHING IN PENNSYLVANIA WEEK" proclamation as (left to right), Robert J. Bielo, executive director, Pennsylvania Fish Commission and Bruce Brubaker hold poster which Dr. Maurice K. Goddard, Secretary, Department of Forests & Waters approves.



NEW PROFESSIONAL Cortland fly rod, equipped with reel, line, leader and Pennsylvania Centennial Streamer Fly is presented to Governor Scranton by Bruce Brubaker and Robert Bielo at proclamation signing ceremony, for "Let's Go Fishing in Pennsylvania Week".

IN THE NAME AND BY AUTHORITY OF THE

Commonwealth of Pennsylvania



NEWSPAPER INFORMATION
FOR IMMEDIATE RELEASE

Governor's Office

HARRISBURG

PROCLAMATION

LET'S GO FISHING IN PENNSYLVANIA WEEK - JUNE 18-24, 1966

- WHEREAS, Angling, the sport of Izaak Walton, has been one of man's delights since the beginning of time and is still one of the most popular forms of recreation; and
- WHEREAS, Pennsylvania is blessed with an abundance and superb variety of flowing waters, and thousands of acres of both natural and man-made lakes and ponds, annually stocked with more than 19 million fish by the Pennsylvania Fish Commission; and
- WHEREAS, Fishing is a sport in which every member of the family can participate, throughout the year; and
- WHEREAS, Pennsylvania has a clean streams program second to none, and a fish management and conservation program that permits maximum enjoyment of the sport of fishing; and
- WHEREAS, Thousands of people visit our Commonwealth each year for the sole purpose of fishing, bringing to our State considerable economic benefit;
- NOW, THEREFORE, I, William W. Scranton, as Governor of the Commonwealth of Pennsylvania, do hereby proclaim the week of June 18-24, 1966, as LET'S GO FISHING IN PENNSYLVANIA WEEK.

GIVEN under my hand and the Great Seal of the State, at the City of Harrisburg, this second day of June, in the year of our Lord one thousand nine hundred and sixty-six, and of the Commonwealth the one hundred and ninetyeth.

BY THE GOVERNOR:

W. Stuart Nelson
Secretary of the Commonwealth

William W. Scranton
WILLIAM W. SCRANTON

**PENNSYLVANIA
FISH COMMISSION
DIRECTORY**

EXECUTIVE OFFICE

ROBERT J. BIELO
Executive Director

GORDON TREMBLEY
Assistant Executive Director

EDWARD R. THARP
Assistant Executive Director
Watercraft Safety

WARREN W. SINGER
Assistant to Executive Director

PAUL F. O'BRIEN
Administrative Officer

JOHN M. SMITH
Comptroller



DIVISION DIRECTORS

KEEN BUSS
Research and Fish Management
R. D. 1—Box 200-C
Bellefonte, Pa.—16823

HOWARD L. FOX
Propagation and Distribution
Bellefonte, Pa., R. D. 3—16823

GLEN SPENCER
Real Estate
Harrisburg

EDWARD MILLER
Engineering
Bellefonte, Pa., R. D. 3—16823

WILLIAM W. BRITTON
Law Enforcement
Harrisburg

ARTHUR BRADFORD
Pathology
Bellefonte, Pa., R. D. 1—Box 200-C
16823

GEORGE FORREST
Public Relations
Editor
Harrisburg



REGION ONE

S. CARLYLE SHELDON Warden Supervisor
Tionesta 16353 Phone: 814-755-8811

REGION TWO

JOHN I. BUCK Warden Supervisor
R. D. 2, Somerset, Pa. Phone: 814-445-4913

REGION THREE

CLAIR FLEEGER Warden Supervisor
351 Terrace St., Honesdale, Pa.,
Phone: 717-253-3724

REGION FOUR

HAROLD CORBIN Warden Supervisor
R. D. 2, Annville, Pa.,
Phone: 717-273-2601, Ex. 86
I. G. M. R. 17003

Pennsylvania Angler

Published Monthly by the

PENNSYLVANIA FISH COMMISSION
COMMONWEALTH OF PENNSYLVANIA

William W. Scranton, Governor



PENNSYLVANIA FISH COMMISSION

ROBERT M. RANKIN, President Galeton
HOWARD R. HEINY, Vice President Williamsport

GERARD J. ADAMS Hawley

JOSEPH M. CRITCHFIELD Confluence

WALLACE C. DEAN Meadville

RAYMOND M. WILLIAMS

JOHN W. GRENOBLE Carlisle

DOUGLAS McWILLIAMS Bear Gap

R. STANLEY SMITH Waynesburg

.....East Bangor



JULY, 1966

VOL. 35, NO. 7

Contents

- 2 PENNSYLVANIA: "THE SAFE BOATING STATE"—Commander Edward R. Tharp, U.S.C.G. (ret.) asst. executive director, watercraft safety Pennsylvania Fish Commission
- 3 BOATING—Robert G. Miller
- 8 DIRECTOR OF PENNSYLVANIA'S MARINAS, ACCESS AREAS AND BOAT RENTAL FACILITIES
- 12 THE RIVER SKIFF—Don Shiner
- 14 SNOWSHOE SIZE BOAT PADDLE
- 16 MODERN CAMPING—Del and Lois Kerr
- 17 WAIKIKI FISHING CHAIR—Hi Sibley
- 18 SOME BASS BUGGING BASICS—Chauncy K. Lively
- 20 THE EYES HAVE IT—A. I. Alexander
- 22 A HOME IN THE HILLS OF PENNSYLVANIA—Keith Schuyler

Cover art by Robert G. Miller

from Pennsylvania Safe Boating Week poster 1966

POSTMASTER: All 3579 forms to be returned to Dunlap Printing Co., Inc., Cherry and Juniper Sts., Philadelphia, Pa. 19107.

The PENNSYLVANIA ANGLER is published monthly by the Pennsylvania Fish Commission, South Office Building, Harrisburg, Pa. Subscription: One year—\$2.00; three years—\$5.00; 25 cents per single copy. Send check or money order payable to Pennsylvania Fish Commission. DO NOT SEND STAMPS. Individuals sending cash do so at their own risk. Change of address should reach us promptly. Furnish both old and new addresses. Second Class Postage paid at Harrisburg, Pa., and at additional mailing offices.

Neither Publisher nor Editor will assume responsibility for unsolicited manuscripts or illustrations while in their possession or in transit. Permission to reprint will be given provided we receive marked copies and credit is given material or illustrations. Communications pertaining to manuscripts, material or illustrations should be addressed to the Pennsylvania Fish Commission, Harrisburg, Pa. NOTICE: Subscriptions received and processed the 10th of each month will begin with the second month following.

PENNSYLVANIA: THE "SAFE BOATING STATE"

by CDR Edward R. Tharp, U.S.C.G., (Ret.)

This is the second article in a short series designed to inform the boating public of both Federal and Commonwealth requirements on our waters.

STATE REGULATIONS

FIRE EXTINGUISHERS

Section 3.35 of Pennsylvania's Motor Boat Regulations:—

- A. All motor boats shall carry the minimum number of Coast Guard approved hand portable fire extinguishers set forth in Table 3.35A, except those less than 26 feet in length propelled by outboard motors, and not carrying passengers for hire *provided* the construction will not permit the entrapment of explosive or flammable gases or vapors.

TABLE 3.35A

Class of Motor Boat	Length, Feet	Minimum number of hand Portable fire extinguishers required*	
		No fixed fire extinguishing system in machinery space	Fixed fire extinguishing system in machinery space
A	Under 16	1	0
1	16 & over, but under 26	1	0
2	26 & over, but under 40	2	1
3	40 & over	3	2

*NOTE: Extinguishers required by the table can either be 1½ gal. foam, 4 lb. carbon dioxide, or 2 lb. dry chemical, except that two of these sizes can be replaced by one 2½ gal. foam, one 15 lb. carbon dioxide, or one 10 lb. dry chemical.

- B. Motor boats engaged in a race which has been officially sanctioned (see Sec. 4.35) or while engaged in tuning up for a race which has been officially sanctioned, need not carry the extinguishers required by this section.

POLICY GUIDELINES

The following, although an actual part of the Federal Regulations, illustrates the intent of these regulations for both Federal and State enforcement guidelines:

Fire extinguishers are required if any one or more of the following conditions exist:

1. Closed compartment under thwarts and seats wherein portable fuel tanks *may* be stored.
2. Double bottoms not sealed to the hull or which are not completely filled with flotation material.
3. Closed living spaces.
4. Closed stowage compartments in which combustible or flammable materials *are* stowed.
5. Permanently installed fuel tanks.

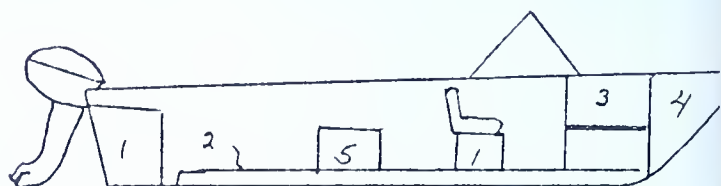


Figure 1.

- C. The following conditions do not, in themselves, require that fire extinguishers be carried:

1. Bait wells
2. Glove compartments
3. Buoyant flotation material
4. Open slatted flooring
5. Ice chests

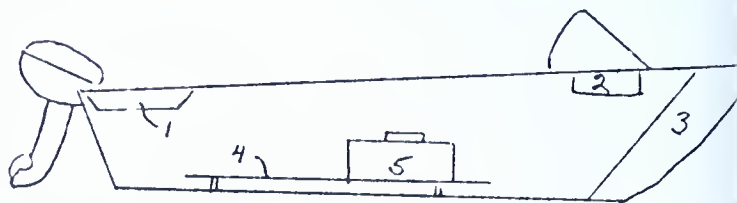


Figure 2.

SPECIAL NOTE: The U.S. Coast Guard designates fire extinguishers as "A", "B", and "C" types. An "A" type is designed for extinguishing fires in wood and cloth



THIS MONTH'S cover of "The Pennsylvania Angler" features the state's colorful Safe Boating Week poster which not only calls attention to the national observance, July 3-9, but has as its center of attraction an artist's conception of the National Gold Cup.

Sponsored annually since 1957 by Kiekhaefer Corp., to "recognize contributions to greater boating safety by communities, the press and governmental agencies," the National Gold Cup was awarded to the Pennsylvania Fish Commission and its Office of Watercraft Safety by a national panel of qualified judges.

Strangely enough, while motor boat registrations increased tremendously, boating fatalities on Pennsylvania waters dropped from 36 in 1964 to 12 during 1965. Consequently the judges, in arriving at their decision, attributed this phenomenal drop in fatalities to Pennsylvania's overall program of sound and rational regulations, the establishment of a well rounded safe boating course for use throughout the state, and the employment of expertly trained patrol personnel in the enforcement of the regulation-education program.

Tribute has also been paid, by Edward R. Tharp, assistant executive director, Office of Watercraft Safety, to the extreme cooperation of the U.S. Coast Guard Auxiliaries and the U.S. Power Squadrons which made this award possible.

Members of the panel selecting the award winners for 1965 were: Don Guerin, past president, American Power Boat Assn.; Webb Sheehy, past national commodore, U.S. Coast Guard Auxiliary; William D. Clifford, executive manager, American Water Ski Assn.; William Wolfmuller, past national commander, U.S. Power Squadron; and Capt. D. W. Sinclair, U.S. Coast Guard, Division of Recreational and Boating Safety.



THE "SAFE BOATING STATE" (Continued)

materials; a "B" type is used in combating oil and gasoline fires; and a "C" type is for use on an electrical fire.

In order to fulfill the Coast Guard and Commonwealth requirements for approval and use on board pleasure motor boats, a "B" type extinguisher is necessary. Some of the extinguishers, such as dry chemical and carbon dioxide types, are approved for both "B" and "C" type fires.

It must be kept in mind that carbon tetrachloride, chlorobromomethane or other toxic vaporizing liquid type fire extinguishers, while formerly approved, are no longer permitted on board boats.

Portable extinguisher sizes are designated by Roman Numerals I and II. For example, minimum sizes on a BI are 1½ gal. foam, 4 pound CO₂, and 2 pound dry chemical and minimum sizes on a BII are 2½ gallon foam, 15 pound CO₂, and 10 pound dry chemical.



FLOTILLA 58, U.S. Coast Guard Auxiliary, held its change of watch ceremonies at Calumbia with Edward R. Tharp, assistant executive director of the Pennsylvania Fish Commission, Office of Watercraft Safety, an hand as the guest speaker. Swarn in by Lt (ig) Robert Janes, assistant director of the USCGA, 3rd Caast Guard District, Southern Area, were: Willard Raush, right, as commander; Joseph Farrest, vice commander; and Lew Laudenberger, training officer. Tharp, secand from the left, witnesses the swearing in procedure.

Boating

By ROBERT G. MILLER

DROVE along the north branch of the Susquehanna River earlier this year, to personally check out existing access areas for the new series of waterway sketches, when I noticed the river was running high and overflowing its banks.

It's hard to visualize, with so much water, that in a few months it would drop to such an extent that pleasure boating would be restricted to widely scattered areas where short stretches of river would make possible the use of outboard motors for a leisurely, but short lived, cruise, water skiing and fishing.

This brings to mind the need for storage reservoirs to improve local boating conditions and one Berwick resident, Con Dellegratto, of 733 W. Front St., a director of the Berwick Boat Club, in discussing the annual mid-summer



CORRECTIONS to the list of Navigable Waters of the U.S. within Penna. as shown in May issuc of the ANGLER.

Susquehanna River (West Branch) — Mouth to Lock Haven, Pa.

(Note: Mouth to mile 3.2 was a printing error.)
ADD: Pymatuning Reservoir



PLEASURE BOAT PRESIDENT, T. Kenneth Welsh, Erie, left, president of the Pennsylvania Pleasure Boat Association with other officials during annual meeting at Williamsport recently. With him are: Edward Brent, center, Williamsport, chairman of the meeting, and Thomas Gongewore, Greentown, incoming vice president. Mr. Welsh will be replaced by Norman Beebe, Glenside, elected during the annual meeting.

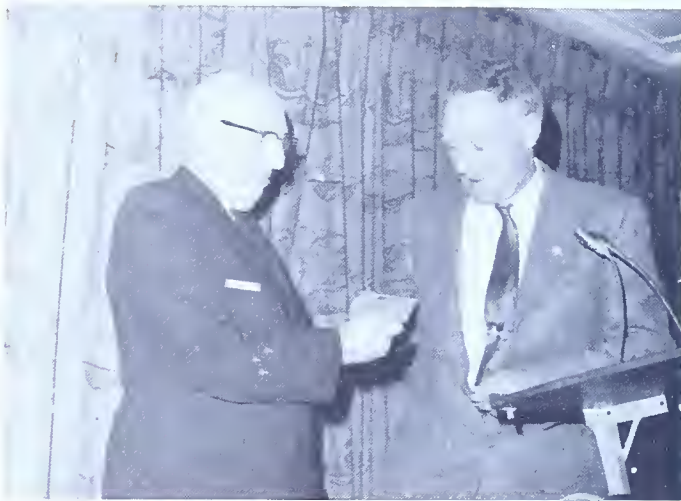
lack of water problems, emphasized the need for such local facilities.

Backing up the river in this area to provide more depth certainly wouldn't cause any shoreline damage. From what I observed last March the overflow merely covered stretches of unused brush covered land.

Earlier this year, during a telephone conversation with Rep. Reynolds, of Chester County, in connection with a new proposal to tap the lower Susquehanna River for an additional water supply, the need for storage facilities was brought up not only to obtain more water to meet the needs of drought stricken communities, by holding in reserve a large percentage of the water which flows off downstream every spring, but to improve the overall recreational possibilities on the Susquehanna.

As far as boating is concerned the Williamsport-Lock Haven areas have benefited by the construction of such dams, even though they were originally built for some other purpose; and boaters on the lower Susquehanna River enjoy deep water boating primarily because of the existing power plants.

Unfortunately such is not the case on the north branch and until storage facilities are provided, such as the long proposed inflatable dam near Sunbury, the entire spring flow will be continually lost downstream leaving the area "high and dry" when summer rolls around.



DR. CHARLES W. GROSSCUP, Abington, Pa., National Director of Education, U.S. Power Squadrons, and a member of the state's Boating Educational Committee, receives a life membership card in the Delaware River Power Squadron from Cmdr. Ira W. Hann, AP, on the left.

DR. GROSSCUP CITED

Dr. Charles W. Grosscup, 1617 Huntington Rd., Abington, the National Director of Education, U. S. Power Squadrons, was honored this year with a life membership in the Delaware River Power Squadron.

V/C Grosscup, incidentally, is a member of the state's Boating Educational Committee which, working along with the Office of Watercraft Safety and representatives from the Boating Advisory Board, aided in the establishment of a well rounded curriculum for the series of safe boating courses now being offered boating families throughout the Commonwealth.

He was one of three Delaware River squadron members cited by that organization during its annual Founder's Day dinner in Philadelphia.

Also honored with a life membership was Lt. Frederick "Lou" Seibold, N.; while Frank W. Harris, AP., received a 25 year pin.

Dr. Grosscup, who has received 25 merit marks in the USPS, has held various posts including chairmanship of Advanced Piloting and Advanced Grades. During World War II he used his knowledge and power squadron training to teach naval personnel at the Philadelphia Naval Base.

Lt. Seibold, who also earned 25 merit marks, is assistant chairman of the Piloting Committee as well as Admission, and is a member of the Executive Committee. He received a commission in the U.S. Coast Guard during World War II, helped in the formation of Flotilla 22, a part of the USCGA, and served as its first commander.

Harris, a member of the squadron since 1941, served as treasurer of the organization for several years.

Also participating in the activities was another Pennsylvania Boating Educational Committee member, George K. Robinson, 260 Burmont Rd., Drexel Hill, a past commander of the squadron. The present commander, Ira W. Hann, AP., presented the awards.



FRANK W. HARRIS, AP (left), receives his 25 year pin from Cmdr. Hann, of the Delaware River Power Squadron.



SHARING THE SPOTLIGHT with Lt. Frederick Seibold, N, (center) recipient of a life membership in the USPS, are Cmdr. Ira W. Hann, AP, (left) and P/C George Robinson, N, (right) a past commander and member of the state's Boating Educational Committee.

Eugene M. Snyder, 1616 Lyndon Ave., Lancaster, is this year's commodore of the Outboard Boating Club of Lancaster County.

Assisting him are: Tony Marko, vice commodore; Calvin Mackley, secretary; John Hartman, treasurer; Charles Fry, docks and ground committee; Gary Sherbine, activities; Dick Lilley, water safety; Ronald Close, legislative; Mary Siegrist, publicity for Lancaster County; and Marko, publicity for the Lebanon County area.

* * * *

Dr. Robert L. Jones, 918 Walnut St., Akron, was installed as commander of the Susquehannock Power Squadron during its 24th annual Change of Watch. He succeeds Edward D. Plummer Jr., of Chambersburg.

Also installed for the 1966-67 season were: Earl W. Hill, Harrisburg, executive officer; Gerard E. Frailey, Lancaster, administrative officer; Walter R. Dillsey, Lancaster, secretary; and Jack S. Belsinger, Lancaster, treasurer.

* * * *

Earl C. Snyder, 128 Manor Ave., Millersville, has taken over his new duties as commander of Flotilla 52, U.S. Coast Guard Auxiliary.

Other new officers, administered the oath of office by

Edgar Long, Division 5 vice captain, are: Russell Shelly, Vice commander; and John Markle, training officer.

* * * *

Pennsylvania ranks 11th among 50 states and the District of Columbia in the distribution of outboard motors for 1965. The estimated unit sales for that year totalled 11,400 with an estimated 210,000 motors in use as of Dec. 31, 1965.

Locally the leading metropolitan markets were Philadelphia with an estimated 3,200 sales, and Pittsburgh with an estimated 2,300 unit sales in '65.

During the year an estimated 39,325,000 persons participated in recreational boating, an estimated \$2,683,000,000 was spent at retail for new and used equipment, maintenance, launching, storage, repairs and club membership; and there was an estimated 7,865,000 recreational craft in use on all waters of the United States.

* * * *

TRAILER TIPS

Planning on trailering your boat this year? If so here are a couple of tips which may come in handy.

Reliable tie-downs are a vital piece of equipment to prevent a lot of bottom battering on bumpy roads. Don't forget the front end while preparing for a trip. Usually the trailer winch line will pull down on the bow eye as the boat snugs up against the bow chock, but vibration during a haul can cause the winch ratchet to slack off a few teeth.

If a friend sometimes tows your rig with his car, become size-conscious regarding trailer hitch balls. It's difficult to tell a 1-3/4" ball from a 1-5/8" ball unless the two are side by side.

Naturally if a coupling for the larger size is dropped onto the smaller size only the download will really be keeping things from coming apart but a bad bump, heave on the road, or a sudden stop could send your equipment flying in all directions.

Large detachable rear-view mirrors are practically a "must" item for owners of the larger, wider outboard and stern-drive craft.

Buy a sturdy hinge at the hardware store and use it as a flexible connector between your trailer's license plate and the plate bracket. When the rear end of the trailer drops to ground level on launching or retrieving, the plate will swing up and won't get bent.

ACCESSORIES REQUIRE CARE

Boating accessories require only a minimum of care, but too often they don't even receive this. To add to the appearance of your rig and increase the life of accessories, the following steps are recommended:

Floor mats, seats and convertible tops should be washed periodically. This is true for both fresh and salt water areas! A mild soap solution—avoid harsh detergents—will remove dirt and smudge marks. This should be followed by a thorough rinsing with fresh water.

When storing stops between boating outings, make sure they are thoroughly dry. When you store a wet top, you're inviting mildew.

Boating With ROBERT G. MILLER



UNDISTURBED SAND FLATS, such as the Conojohela flats in the Susquehanna River, off Washington Boro, offer excellent impressions of tracks early in the morning. The tracks are photographed within the frame.



FINISHED PHOTOS are mounted in a scrap book so that Browne, using a compass and the millimeter frame in the photo, can easily measure the size of the tracks and obtain their true dimensions. To the left is a plaster cast of tracks but this can hardly be filed away and is subject to damage if dropped.

NOT TOO long ago it was suggested that many boaters are interested in how-to-do-it articles, that is, descriptive material based on the experience of other boat owners involving maintenance and equipping their craft and passing along some of the helpful tid-bits handed out by the boat and marine engine manufacturers.

This brought to mind one such item, not associated with maintenance or equipment, but which should be of interest to the pleasure boatman who finds enjoyment in exploring hidden shorelines and collecting various oddities related to the outdoors.

I'm referring mainly to the bird lover's hobby of building up a collection of rare bird tracks by using plaster of paris molds. Probably the best place to locate such finds are on the mud flats of the lower Susquehanna River or along some smooth stretch of sandy beach.

Unfortunately, after spending a couple of years involved in this hobby, you soon run out of space in the den or basement, the molds start spilling over into the kitchen or living room (much to the chagrin of your better half), and there is always the danger of dropping and breaking what could be considered an unusual find.

These problems involved in mold making have been solved through photography, quite a few boat owners carry a camera on board, by Vernon Browne, of Lancaster, former president of the Lancaster Bird Club.

Browne's equipment involves a compact 35 mm camera, which can be stored on board without taking up too much space; an old picture frame to which has been attached rulers scaled in millimeters, and a small numbered index card which is clipped to the frame when the photo is taken. Actually a single lens reflex camera, and there are quite a number on the market today, is preferable since it eliminates the parallax problem encountered in close-up work.

The best time to shoot such subject material is early in the morning when the slanting rays of the sun provide a bit of depth, rather than the flat light of about mid-day, and before the tracks are obliterated by the footsteps of bathers or the washing action of waves.

As a result, when most of us are still asleep, Browne backs his outboard craft into the water and generally heads for the Conojohela flats, off Washington Boro, an area well known as the habitat of waterfowl and other bird life. A pair of hip boots comes in handy here since it's necessary to anchor off shore and wade in.

Once he finds the tracks he is looking for, they are photographed within the frame and any descriptive matter is jotted down in a note book using the number on the index card for identification.

When the final print is made, regardless of size, it's merely a matter of measuring the track against the millimeter scale on the frame to determine the exact dimensions. A pair of calipers are used for measuring the tracks.



AN OLD DETERGENT BOTTLE, made of plastic, comes in quite handy as a bailer. It doesn't scrape wood or aluminum and is flexible enough to reach into those hard to get at corners.

The photos are then stored away in a loose leaf binder, or filing cabinet, and there is no breakage problem, no storage problem and the negative is always available in the event a print is lost.

Actually, as I see it, this same equipment can be used for photographing a beautifully tinted leaf in color, wild flowers, an odd piece of driftwood, provided it does not extend beyond the limitations of the frame, or an unusual specimen of mold growing from within a rotted tree stump.

These are but a few of the applications but I'm quite sure there are hundreds of other ways in which this procedure can be used by the boatman-photographer whose hobby involves the out of doors.

It's several weeks since the Vernal Equinox, spring to most folks, so it's time to de-hibernate, if you haven't already done so, and get that boat in shape and onto the water.

Perhaps one of the first things to do is check your tool kit. Dump out all the extras you've been collecting for years and limit its contents to spare spark plugs, a plug wrench, adjustable wrench, friction tape, spare prop and propeller nut, cotter and shear pins, pliers, screw driver and your owner's manual. Since you should carry the kit with you at all times, it's also a good place for your current certificate of registration.

Those who have electric starters should have the battery checked before it's re-installed. Motor manufacturers recommend using a hydrometer or else take the battery to your service station. However don't charge it unless it's necessary; overcharging can ruin an otherwise good battery.

A stiff brush and a baking soda solution will clean corrosion from the battery terminals, apply a light coat of grease to each terminal, and make sure the positive cable is connected to the positive terminal and the negative to the negative side.

Turn the key in the ignition switch and if it doesn't click into the "on" or "off" position easily, add a drop of oil. Check out the dashboard and running lights, and keep a supply of spare bulbs on board.

Don't forget the dashboard wiring and connections. If any part is cracked or corroded, replace it immediately. A faulty electrical system is a potential fire hazard.

Come to think of it, how about that fire extinguisher. Check the safety gauge and if it shows the need for a re-charge take care of it right away.

* * * *

Afraid of loosing that ignition key overboard? Attach it to a small fishing bobber which will keep it afloat if it should be dropped into the water. Why not use larger bobbies for your wrist watch or other valuables carried on board. Sounds like a good idea.

* * * *

The Delaware River Power Squadron has been cited by the Portuguese Government as the 1965 recipient of the "Prince Henry" award for training the largest number of navigators.

Cmdr. Ira Mann accepted the award at a special ceremony during a District 5 Education Conference and later presented it to the instructors, Lt. Anson Cunningham and Lt. John Wrenn whose efforts won the award for the DRPS.

* * * *

Apparently there are still quite a few boat owners who still do not know the correct way to display their boat numbers and there is certainly no excuse for this situation.

Our own safety patrol officers, I understand, have come up against this problem quite frequently during the 1965 season; and according to a release from the U.S. Coast Guard an examination of violation reports indicates that 44 per cent of all craft cited by the USCG were for failure to carry the "certificate of number" or to display the "awarded number" correctly.

Each Pennsylvania boat owner receives, along with his or her "certificate of registration" and validation stickers, a copy of the regulations and a sketch showing the proper and improper ways to apply the numbers on either side of the bow.

Do it the right way this year and avoid the embarrassment of being flagged down by the safety officer who may just be tired of handing out verbal warnings, which some folks repeatedly ignore, and will hand you a "ticket" instead.

* * * *

PHOTOGRAPHY TIPS

Four common errors account for thousands of ruined photos. Before clicking the shutter this summer, run through these checks quickly: (1) Hold the camera steady; (2) Move in closer; (3) Be careful of background interference; and (4) Don't try and crowd too much into a single picture.

CLEAN BOAT BOTTOM

Marine growth and grime can collect on the bottom of your boat and rob it of performance. Whether your boat is in fresh or salt water, check the hull periodically and give it a thorough washdown. Excessive marine growth can cut as much as 30 per cent off top speed.

DIRECTORY OF PENNSYLVANIA MARINAS ACCESS AREAS and BOAT RENTAL FACILITIES

By ROBERT G. MILLER



More suitable for float trips and fishing, rather than pleasure boating, is the north branch of the Susquehanna River from Wapwallopen northwest to Sayre.

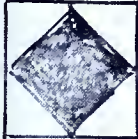
During the early spring there may be plenty of water along this stretch of river but once the snow waters subside the fellow with a canoe or rowboat has the distinct advantage of still being able to go where and when he pleases.

The north branch passes through several counties including Luzerne, Wyoming and Bradford with one short stretch, in the vicinity of Ransom, forming a portion of the western boundary for Lackawanna County.

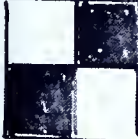
Because of river conditions one will find few, if any, active boating organizations in Luzerne County and the launch sites are seldom utilized to their utmost.



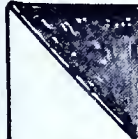
Starting at the extreme southern section of the sketch, there is the Berwick Boat Club landing, located along a township road leading north off Rt. 93, near Wapwallopen. Picnic area, parking and concrete ramp. No gasoline or oil in the immediate area and no charge for launching to members of other recognized boat clubs. A short distance northeast, off the same road, is the Riverview boat landing, a commercial operation providing a ramp and parking with a charge for usage.



West Nanticoke, located off Rt. 11, along the north shore of the river. Launching ramp only. Boat club in this area is presently inactive.



Privately owned access area at the Falls. No charge for launching. Located in Wyoming County, near the Rt. 92 bridge.



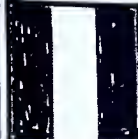
Pa. Fish Commission access area at Tunkhannock, located off a township road south of Rt. 309. Beach type ramp, parking, no charge.



Three launching sites at Vosburg, all privately owned with a small fee for use. Ramps quite steep. Owned by Grace Calvert, Marion Howland and A. C. Dickenson. Located west of Rt. 6, off Twp. Rd. 506.



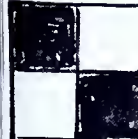
Pa. Fish Commission ramp at Laceyville, off Rt. 6. Beach type ramp, parking and no charge.



Sugar Run access area. Small fee with gasoline, oil and groceries available in the immediate area.



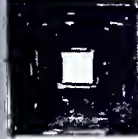
Wyalusing, Homet's Ferry access area. River's edge parking. No charge. Use Old Ferry Road, Leg. Rt. 51.



Homet's Ferry access area, on west side of the river, located off Rt. 187 in the vicinity of Terrytown.



Towanda Boat Club launching area. Fee to non-members of \$2. Also Standing Stone landing, at Standing Stone bridge, about six miles south of Towanda, on Rt. 187.



Access area in the borough of Towanda, located off Rts. 6 - 220. No charge for launching.



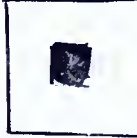
Wysox access area, two miles south of Towanda, located off Leg. Rt. 08107. Project of the Pa. Fish Commission.



Second access area in the Wysox area, located in the vicinity of the Rt. 6 bridge.



Private access area, located south of Sheshequin, no charge but permission required from the owner.



Launching facilities at the Tomeln Lodge, also south of Sheshequin. Slight fee required.



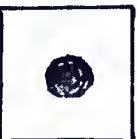
Ulster river bridge access area, located off Rt. 220. Beach type ramp and no charge for usage.



Pa. Fish Commission ramp, located two miles northeast of Sayre, along Leg. Rt. 08077. Parking area available.



Lake Jean and Lake Rose, at Ricketts Glen State Park, with boat launching area at Lake Jean off Rt. 487. Facilities include hiking trails, picnic areas, bathing, tents and tent trailers. Boating limited to rowboats and canoes, no outboard motors.



Harvey's Lake, 15 miles northwest of Wilkes-Barre, located off Rt. 415. Large resort area with nine mile shoreline, complete launching facilities and accommodations. No motor restrictions.



Sylvan Lake, small boating area located east of Sweet Valley and north of West Nanticoke, off Rts. 29 - 118. 15 H. P. limit (land owners agreement).



Lake Winola, Rt. 307
near Mill City
No motor restrictions



Lake Carey, Rt. 29
above Tunkhannock
No motor restrictions



Installing an Outboard

How you mount your outboard motor is vital to performance. This applies to small outboards as well as the larger units.

There is no simple "rule of thumb" for the correct engine height or vertical angle. Each boat is different and every installation must be handled differently. The service experts also point out that although height and angle are two separate things, they must be considered together.

As a starting point, the engine should be mounted so that the cavitation plate is parallel to and slightly below the bottom of the boat. The angle adjustment rod should be set in the second notch. Remember, these are just starting points, and both engine height and lower unit angle can and should be changed if circumstances call for it.

A shakedown cruise is a must, and it should be carried out under normal load situations. Two extra passengers, a soft drink cooler, extra fuel cans and the general assortment of boating gear will have a tremendous effect on how your boat handles and performs.

Once underway there are four things to watch for: (1) cavitation; (2) excessive spray; (3) porpoising; and (4) plowing. If any of these symptoms occur, you can be pretty sure the motor is not mounted properly.

Cavitation and excessive spray can usually be traced to the height of the motor. Cavitation occurs when the engine is mounted too high on the transom and air is introduced into the path of the propeller. Air has less resistance, and the propeller is free to turn at a much faster rate.

Excessive spray, caused by the spray plate on the lower unit, means the engine is mounted too low on the transom.

Porpoising (the bow seems to bounce on the water) and plowing (the bow seems to smack into the water) can often be traced to the angle of the lower unit. One word of caution: The weight of passengers and extra gear could be the culprit. To correct porpoising, move weight forward. If the bow is plowing, move weight aft.

If re-arranging equipment doesn't solve the problem, you may have a minor defect in the hull. Changing the angle of the lower unit will compensate for this defect, although you may sacrifice some performance efficiency. Porpoising can be cured by moving the lower unit closer to the transom. Plowing can be cured by moving the lower unit away from the transom.

Throughout the installation, remember that your goal is efficient propeller thrust. This occurs when the path of the propeller is parallel to the water level when the craft is underway.

OVERLOADING IS DANGEROUS

Overloading is one of the most common and dangerous boating violations. Just because your boat has "room" for eight people, don't crowd them aboard. Check the boat's capacity plate to be sure of the number of passengers you can safely carry. If your boat doesn't have a capacity plate (most newer boats do), check with your marine dealer or the manufacturer.

MARINE CHARTS GUIDE TO MORE BOATING FUN

Marine charts are guides to more boating fun, but surprisingly few boating families take advantage of them. Perhaps this can be explained by a fear that they're too technical and designed only for professional pilots.

This isn't true. Marine charts are no harder to understand than ordinary highway maps and usually a great deal easier to fold up.

They carry a variety of helpful and interesting information. Quite obviously charts show the depth of the water, expressed in either feet or fathoms. Check the chart legend to make sure which!

Charts outline the navigable channel. Although this is designed primarily for larger vessels, you can't go wrong if you stay within its bounds.

Lighthouses and checkpoints along the shore or located in the channel are also noted. These are handy reference points, and it's a nice feeling to look out and see the marker "just where it's supposed to be."

Harbors and shelters, along with the channel leading into them, are a handy guide to emergency facilities.

The charts also represent an exact scale drawing of the body of water and shoreline. This will assist you in planning your trip and making any special preparations, such as adding an extra fuel tank.

Special markings indicate unusual obstructions such as a dangerous rock formation or a sunken wreck. Survey chart No. 1 of the U.S. Coast and Geodetic Survey lists all of these symbols and abbreviations. Most charts are available at a very nominal price, usually less than \$1.00.

All charts are dated, and this is for good reason. Sand bar shifts and rivers cut new channels. Make sure you have the latest edition.

WHERE TO WRITE FOR CHARTS:

Coastal and intracoastal waterway charts, U.S. Coast and Geodetic Survey, Washington Science Center, Rockville, Maryland.

Great Lakes and connecting waterways, U.S. Lake Survey, 630 Federal Building, Detroit, Michigan.

Mississippi River System, Office of Division Engineer, U.S. Corps of Engineers, 536 South Clark Street, Chicago, Illinois.

TVA Lakes, Tennessee Valley Authority, Knoxville, Tennessee.

Lakes and rivers under jurisdiction of U.S. Corps of Engineers, write Chief of Engineers, Department of the Army, Building T7, Gravelly Point, Virginia.

MEASURE PERFORMANCE

A tachometer, which measures the revolutions per minute of your outboard motor, is one sure way to check performance, say the motor engineers. If your engine is turning faster (more rpms) than it should, a propeller change could solve the problem. Select a new prop with more pitch to the blades.

CHOOSING A NEW BOAT

A family of six, who enjoys long automobile trips, wouldn't buy a small foreign car. They'd select one that better suited their needs.

The prospective boat buyer should do the same. With some 3,000 production models available, it isn't hard to find the right boat whether you're a fisherman, boat-camper, cruising enthusiast or water ski buff.

Finding the right boat will be a lot easier if you know exactly what you're looking for. It might even help to write all the details down and then bring the list along on your shopping trip.

What's your main boating activity? This is the most important question you can ask. Obviously a family that enjoys fishing will need a different boat than cruising enthusiasts. If your family enjoys a variety of water sports, you'll need a boat with "built-in" versatility.

Plan for the years ahead. Boating interests change. This is especially true for families with youngsters, who soon become water ski enthusiasts. You don't have to have two different rigs. Many so-called fishing motors can double as ski motors when mounted on the right boat.

Do you plan to trailer your boat? If you expect to do a lot of highway towing, select a boat with an eye toward easy trailering. Don't forget to include ease of launching and loading.

Where your boat is important too. Large inland lakes require a boat with good sea-going characteristics. If you plan to spend most of your time on small bodies of water, you might want to select a boat that can be easily maneuvered. Versatility of design will again become important if you plan boating activities on both large and small bodies of water.

Where do you plan to store your boat? Don't forget that your boat will probably need some type of storage during the season. And don't be like the family who couldn't close their garage door all winter because the trailer "didn't quite fit."

How much can you afford? When selecting a boat remember that there will be some expense in equipping it properly and performing routine maintenance.

Who should I buy from? The fastest way to find a good boat dealer is to ask a few questions of local boatmen. They'll be able to tell you who performs good service and is ready, willing and able to handle any problem that might arise.

BALANCE TRAILER WHEELS

Excessive vibration when towing a boat trailer can be traced to poorly balanced trailer wheels. Any automotive service station can balance the wheels correctly.

OUTBOARD CANOEING

A canoe trip doesn't have to be an endurance test. Side brackets, priced at about \$15.00, are available for mounting small outboard motors. Square stern canoes also allow easy outboard installation.



DELAWARE RIVER POWER SQUADRON officials marked a half century and "change of watch" recently at IvyStone Inn, Camden, N. J. Left-right: LT/C L. P. Wells, JN; Cdr, J. J. Coslett, N; H. Hutchings, N. and Lt/C R. Bell, JN.

USED OUTBOARD CAN BE GOOD BUY

If you're looking for a good buy on an outboard, check the used motor market.

Booming new motor sales mean marine dealers have a wide selection of models to choose from and the careful shopper can enjoy years of trouble-free boating for a relatively small investment.

The most important consideration is who manufactured the motor and who is attempting to sell it. Make sure replacement parts are available now and will be in years ahead.

It's good advice to buy only from an established marine dealer. Although many private owners are operating in good faith, too many buyers have been stuck with "hot" motors, and we're not talking about speed.

Operate the engine, either in a test tank or in an actual demonstration run. Easy starting and a smooth idle usually indicate that the powerhead is okay. If possible, remove the intake cover and examine the piston rings and piston cylinders for signs of excessive wear.

If the powerhead checks out, take a look at the lower unit. A noticeable dent or gash should serve as a warning that the unit struck an underwater object. Serious damage could have resulted to the housing and gears. Remove the drain plug and check for water in the lubricant. Its presence means the outer housing is cracked or broken.

An actual demonstration run will give you further evidence to buy or not to buy. Watch for faulty acceleration or excessive vibration. Use a tachometer to make sure the engine is turning at least its rated revolutions per minute. Changing propellers could correct either of these problems, so don't condemn too early.

* * *

CARPET YOUR BOAT: More and more boatmen are taking a tip from the metal boat boys and carpeting inside with nylon pile carpets. The aluminum fraternity started the craze. Nylon's great ability to resist dirt and jazzy good looks made other boatmen copy the maneuver.

THE RIVER SKIFF

By DON SHINER

It is possible to build this craft during a single weekend, before the fishing season gets underway. The cash outlay will rarely exceed thirty-five dollars. The following materials are required.

Material List

Sides:	2 pc. $\frac{7}{8}$ " x 12" x 14'0" pine
Stem:	1 pc. 4" x 4" x 18" oak or equivalent.
Transom:	1 pc. $\frac{5}{4}$ " x 14" x 3'0" redwood or pine in $\frac{3}{4}$ " thickness.
Keelson:	1 pc. $\frac{7}{8}$ " x 5" x 14'0" pine
Seats:	1 pc. $\frac{7}{8}$ " x 12" x 12'0" pine
Trim:	2 pcs. $\frac{1}{2}$ " qt'r round 15'0"
Hardware:	1 gross galvanized screws 1 $\frac{3}{4}$ "
Paint:	1 qt. wood preservative and 1 gal. marine enamel.

First step is sawing out the stem from the tough oak material. This is a difficult part of the project, best accomplished with a power bench saw. A local lumber yard may be able to assist in this operation.

The next step involves fastening the side boards to this oak bow. Use sufficient number of screws and waterproof glue to give adequate strength to withstand forming the hull, accomplished by bending the two sides around the center mould. The side boards are then fastened to the transom.

The center mould is retained in position as the hull is turned upside-down for installing the floor. You have a choice of material for this part of the skiff. Use five-inch wide planks or $\frac{7}{8}$ " thick marine plywood. The former has the advantage of being cheaper and withstanding rough treatment from rocks and hidden ledges in shallow rivers. It will add approximately 40-pounds of weight to the boat, over that of the lighter plywood floor. A crack, about the thickness of a penny must be permitted between planks to provide space for expansion as the lumber absorbs water. These cracks close tightly within a space of a week or ten days after launching.

A plywood floor will be more costly. Besides providing a lighter weight boat, the floor will be water tight from the moment the craft is shoved into the water.

Whatever your choice of floor, let the material extend beyond the hull. Later use a portable power saw to trim the edge to correspond with the general hull outline.

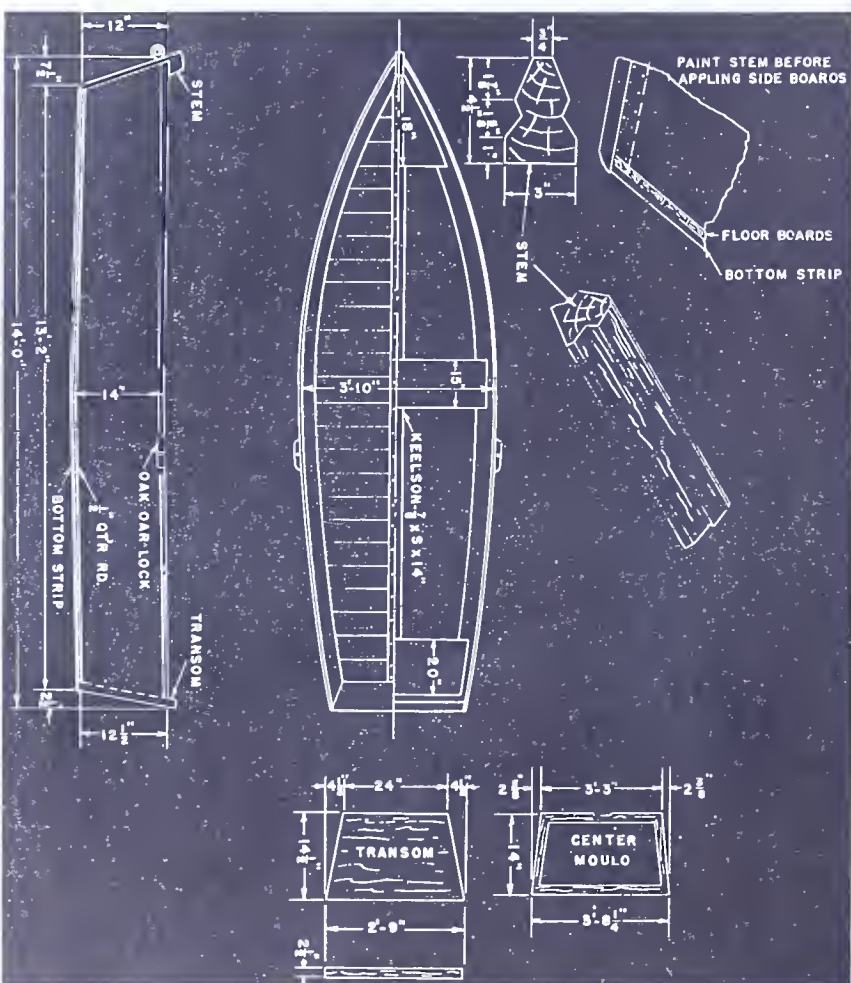
With flooring in place, remove the center mould, and install the seats. Position these at the bow, mid-ship and stern area, at a height that gives comfort.

Much kiln dried lumber today rots after two or three seasons of exposure to water. I've had two river skiffs dry

THE FLAT bottom row boat remains the backbone of the fishermen's fleet. True, this boat design has lost much of its former luster. Big, roomy, powerful outboards transported on trailers, have grabbed many boaters' attention. These glamorous crafts and their associated trailers and winches have revolutionized the habits of many boaters in Pennsylvania and elsewhere in the nation. Yet despite the big shift in this direction, large trailered crafts are handicapped by some limitations.

Roads and available ramps impose restrictions. There remain also innumerable rivers, ponds and marshes, even trout and bass streams of adequate flow, where the big, powerful runabouts are out of keeping. Here the flat bottom row boat, kept tied to a tree on shore, remains the ever-popular craft. Availability for use whenever the fishing urge becomes overpowering, coupled to the low initial investment and minimum of upkeep, has kept the river skiff popular among many Pennsylvania anglers.

If you have access to a quiet pond or river, which provides many hours of unhurried angling during the year, you will do well to consider this flat bottom river skiff.





EVER SKIFF remains the ideal craft for many lakes, rivers and ponds in Pennsylvania. This row boat is ageless.



FIRST STEP is to fasten sides to oak bow, then insert center mould and fasten sides to transom. This shapes the hull.



TURN THE HULL up-side-down and begin fitting flooring in place. Allow a crack, wide as a penny, between each plank.



THE BOTTOM with $\frac{3}{8}$ -in. thick marine ply- this is more expensive, but provides a lighter



GIVE THE BOAT a coating of wood preservative, followed by two coats of marine enamel, color of your choice.



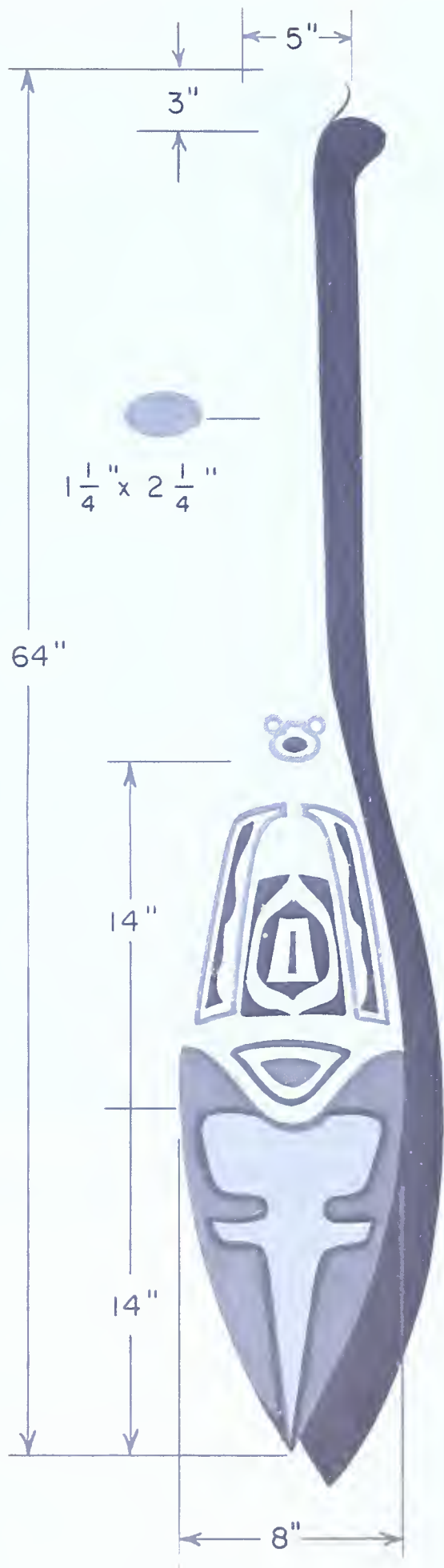
HERE'S THE COMPLETED CRAFT, completed in one weekend. It handles well with oars, or outboards up to $7\frac{1}{2}$ hp.

rot after using them for the short space of two seasons. Many arguments are heard, some without scientific basis, that lumber air dried the old fashion way, retains a pitch residue which inhibits dry rot. It is true that boats fashioned from air dried lumber remains serviceable longer than those of kiln dried material, but this problem is overcome by coating the wood with a commercially prepared preservative. Following this preparation, give the skiff one or two coats of marine enamel in a color of your choice.

Enlist the help of a buddy and work progresses more swiftly and smoothly.

The overall design of this river skiff is not unlike that of a "jon" or "John" boat which is essentially longer, narrower and with bow bluntly shaped much like the stern. Either of these crafts will handle well with oars or, on larger lakes and rivers, can be powered with outboards up to 5 or $7\frac{1}{2}$ hp.

... Boaters will develop real muscle power with this ...



CANOE paddles, like willow trout creels, haven't changed design in several centuries. Examine a canoe blade and you've seen them all, from the first hand carved model belonging to a Delaware Indian brave, to the satiny smooth and dainty paddle used by white canoeists of the present day, with one exception. The canoe blade fashioned by Indians on the Quinault Reservation is in a class all its own. Big, brawny, snowshoe size, this warrior oar puts real muscle power in boating. It assists in propelling light crafts with the speed of wind. Not only is this husky blade a match for the most forceful river current, but the totemistic color design is more colorful than a rainbow glimmering in the mist of a foamy water-fall.

I first saw this warrior blade in use on a river in western Ontario. We were anchored in a leeward cove, jigging for walleyes and enjoying the sight of a cow moose browsing on aquatic weeds about a hundred yards distant. Suddenly two canoeists appeared from nowhere, gliding past us with such speed that they over-took the cow before it could run for cover. The dark, leathery skinned canoeists propelled their craft with two painted paddles of unbelievable size! They tore huge chunks of river from the sprawling stream with each powerful stroke. I doubt whether a five hp. outboard could have made much better headway in the swift current.

The canoeists quickly disappeared around a bend in the river. Later, when the walleyes stopped hitting, we pulled anchor and moved upstream, encountering the canoeists again when they pulled up on an island for a shore dinner.

They related that the giant paddles originated with an Indian tribe on the Quinault Reservation. The totemistic design, worked out in vivid hues of red, blue, green, black, white and yellow, was symbolic of this tribe, and used to establish relationships to specific tribal families and to distinguish one family's possessions from another. Made of seasoned birch, the "canoe clubs" were surprisingly light weight for their size. The nylon-smooth finish enabled the paddles to cut water like razor sharp knives slice beef steak.

Sometime later, in my workshop at home, I reproduced the warrior size paddle from the rough measurements given to me by those Indians. From a color snapshot, I was able to reproduce the colors of this giant, snowshoe size paddle.

I used a soft pine plank measuring 5/4-in. thick, 8-inches wide and 6-foot long. First step involved scaling the pattern on newsprint paper, then transferring this outline to the plank. A band-saw rough shaped the paddle. Then with much elbow work with an ax, draw-knife, plane and finally sandpaper, I managed to thin the blade and handle down to proper size.

ize Boat Paddle

By DON SHINER

Working out the totemistic design proved fascinating. Scaling the various symbols from the photograph, I cut paper templates and transferred the outlines to both sides of the giant blade. I duplicated the totem design in red, blue, black, white, yellow and green, so symbolic of this tribal group.

Biggest surprise came when I put the warrior blade into actual boating operation. I discovered the power paddle digs in easily, deeply to push the craft forcefully against the strongest river currents. The big totem-pole blade develops real arm power on long hauls.

Since handling this warrior size blade, I confess that

I wouldn't give a dime for a boat load of conventional canoe blades. This Quinault Indian blade represents the first major change in boat paddles in several centuries.

If you'd like to own one, glance over the how-to pictures printed here. Grab a light birch or pine plank. Set to work shaving out this powerful, beautiful, snowshoe size boat paddle. It will enable you to propel your craft like the wind. Besides, it's a formidable weapon against some fish stealing bear, or a freshly netted musky that refuses to hold still in your boat. Between trips astream, boaters can use the totem pole paddle as a decoration on the trophy room wall.



STEP 1: Mark the outline of the big, warrior size paddle on an 8-in. wide plank.



STEP 2: USE A POWER band-saw to rough-out the paddle.



STEP 3: SAND THE EDGES to conform to the outline.



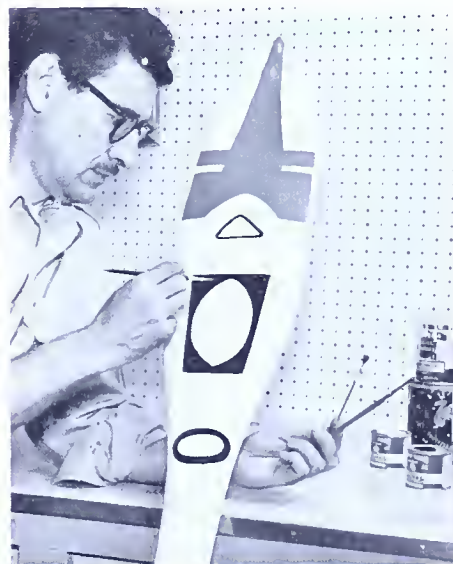
STEP 4: THEN SET TO WORK with ox, draw-knife, wood plane and file to cut edges of paddle down to knife thickness. Make paddle mirror smooth.



STEP 5: PAINT WOOD thoroughly to raise the grain, then give final sanding.



STEP 6: CUT OUT patterns from newsprint paper, to correspond to the totemistic design and trace outlines on the blade.



STEP 7: GIVE PADDLE an undercoat of paint, then carefully point in design on both sides of blade. Use marine enamel throughout.



STEP 8: HERE'S THE WARRIOR size snowshoe blade in operation. You'll put plenty of muscle power in your boating with this paddle. Hang it on your game room wall between trips afloat.

MODERN CAMPING

By DEL and LOIS KERR



Authors' son Jeff, and friend.

IT WAS just another yesterday, another fun-filled camping trip. But without our collie, Lad, it may have been different. Perhaps it's credit he doesn't deserve. You may be able to judge better than we. After all, we're fond of the critter.

We were camped in a sheltered grove of hemlocks and birches in northern Pennsylvania. We were alone except for catbirds and jays, chipmunks and squirrels. It was a joy just to be outdoors in the early spring sunshine.

Fishing—hiking—exploration! We were all hungry long before lunchtime. While we were under the hypnotic spell of a delicious outdoor meal, nature seized the opportunity to display her force!

Lad began to whine softly at first, then more emphatically. He pranced nervously about. We became aware that the woods were strangely silent—even the leaves suddenly hung lifeless. The atmosphere took on an unnatural orange-yellow cast. A storm was imminent!

Rushing to a clearing, we saw a black, syrup-like cloud boiling and churning over a far hill. "Get into the tent quickly," we yelled to the kids. They ran toward the canvas shelter as directed, but Lad would have none of it. *He grabbed the youngest boy by the pants cuff and forcibly pulled him away from the tent, toward the car!*

As moments sped by, it became apparent that this was not to be an ordinary thunderstorm. Lad's "suggestion" was a good one. The kids would be safer in the car.

We never had time to finish clearing the table. When the powerful wall of wind hit, trees began whipping and lashing, some crashing to the ground. Our dining fly bellowed straight up and was instantly torn to shreds. That was enough for us. We got into the car with the boys.

The storm was one deafening roar. Tops of many trees were not merely broken—they were twisted off! Although the campsite was carefully selected for safety, giant limbs bombarded the area nonetheless. Our tent weathered the wind magnificently. We would have been unharmed had we elected to stay inside. But a falling tree or limb could have scored a direct hit as easily as not.

Reviewing the situation, we can't help but wonder why Lad acted as he did. During other locally severe thunderstorms, he was always content to peacefully snooze inside the tent. Did he actually have some instinct that this would be the worst storm of our experience long before us? We prefer to think so.

Canine weather forecasting, of course, would be a poor excuse for including a dog on a camping trip. Pets are taken either because we enjoy their company or because there is no "dog sitter" available. Whatever the reason, one fact stands out: The presence of dogs in the campground is one of the most controversial issues facing the camper today!

In many households like ours, the pooch is almost considered a member of the family. Some people would not think of going on a trip without taking their dog. Pet owners bitterly oppose the tabu on pets in all Pennsylvania state park camping areas. But, as always, there are two sides to the story.

We think we have a well-disciplined, obedient dog. Yet the very sight of him, or any dog, may bring on a state of apprehension to some people. Just as all people are not campers, all campers are not dog lovers. In a majority of cases, the owner, rather than the dog, brought about "ban-the-pet" policies.

Rules were adopted only after careful study of justifiable complaints. A small percentage of dog owners were (and still are) guilty of negligence and calloused indifference. Dogs running loose in the campground, no attempt to control barking and many, many cases of children bitten left only one choice. No dogs!

Many owners seem to feel that regulations are intended only for unruly, disobedient canine creatures who have no degree of training whatsoever. Think for a moment. Who is going to take a savage, vicious dog vacationing with them? It is only the lovable family pooch that finds his way into a campground. And it is these same dogs who sometimes cause trouble.

Pets are still permitted in federal campgrounds and most private campgrounds throughout Pennsylvania. But this could quickly change. We must make sure we understand rules and regulations—and abide by them. Without exception, dogs are to be kept on a leash in a public campground. Few people mind a dog barking for a brief period. But it may spoil another camper's outing if barking continues longer than necessary. Be sure to tie him well out of the way of passing strangers.

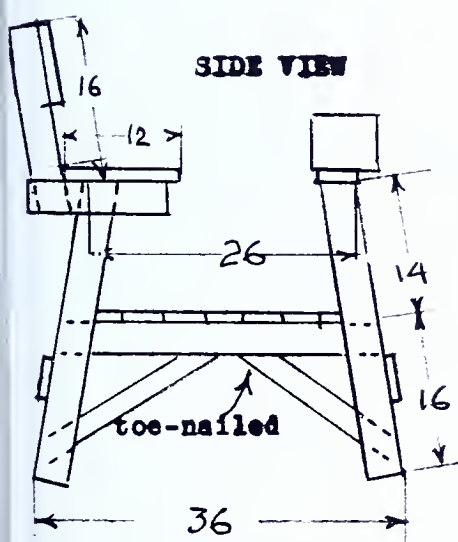
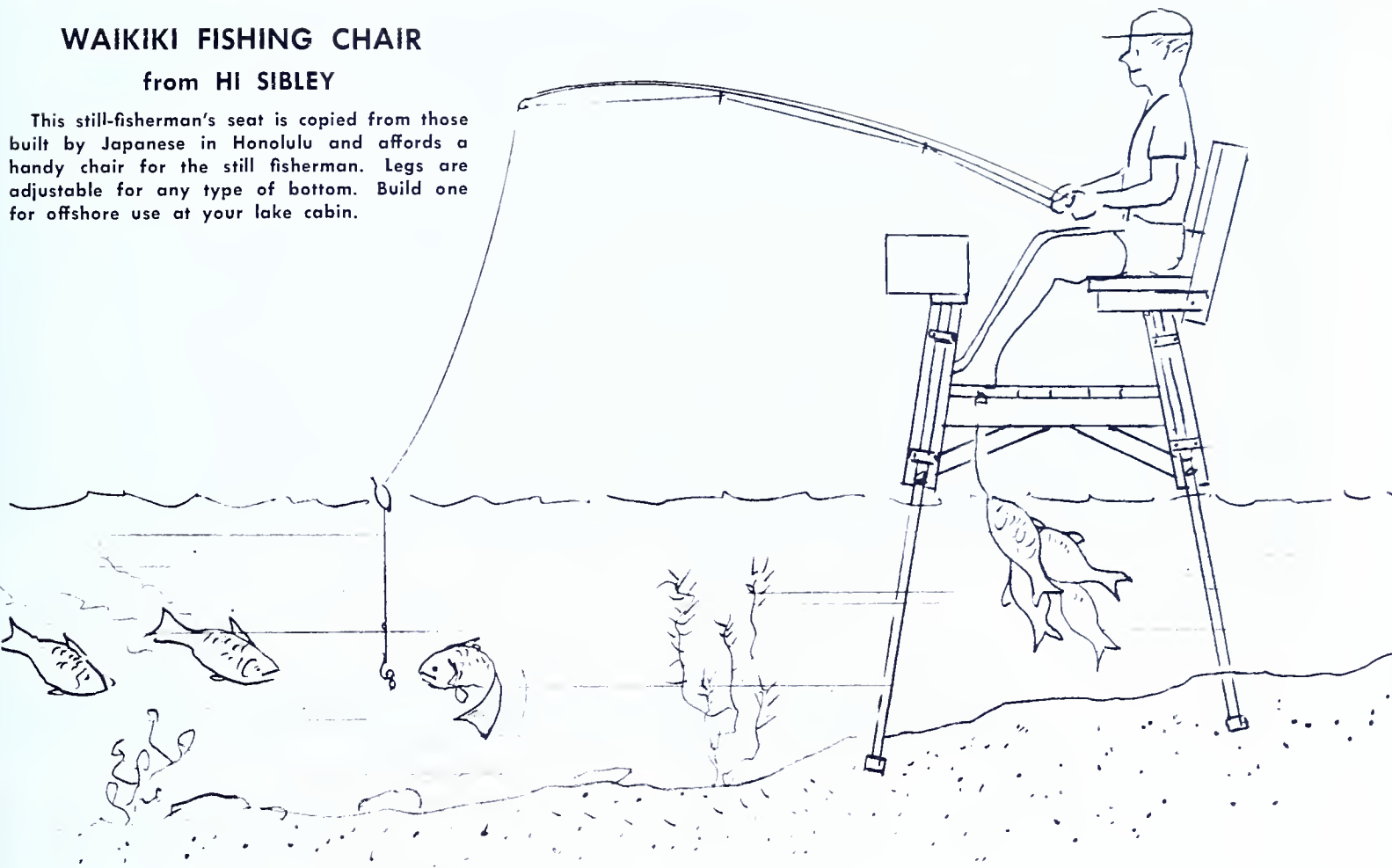
By all means, respect fellow campers enough to clean up after your dog. A small hand spade takes little space and requires only a moment to dig into the ground at suitable spot, turning unsanitary droppings under. Some campgrounds have *specific* rules on this point. Check regulations carefully.

With a little extra effort on our part, we'll never have to leave a "family member" behind. Dogs love to camp!

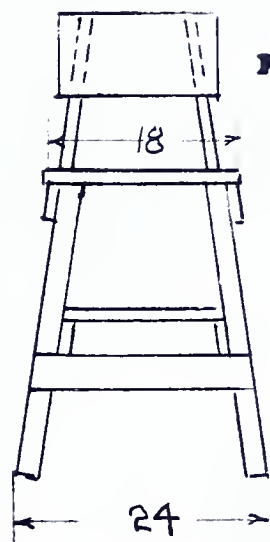
WAIKIKI FISHING CHAIR

from HI SIBLEY

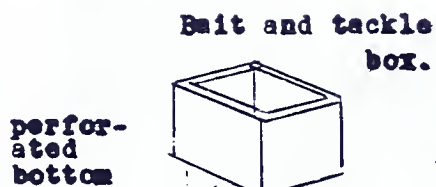
This still-fisherman's seat is copied from those built by Japanese in Honolulu and affords a handy chair for the still fisherman. Legs are adjustable for any type of bottom. Build one for offshore use at your lake cabin.



SIDE VIEW

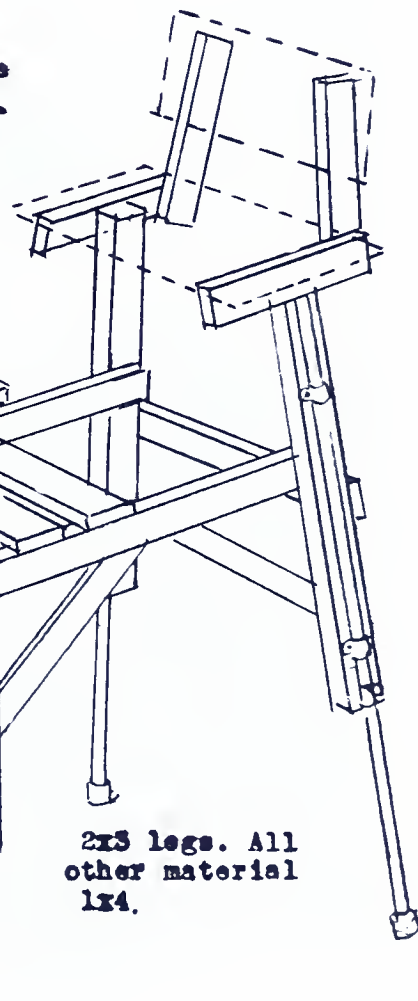


FRONT VIEW

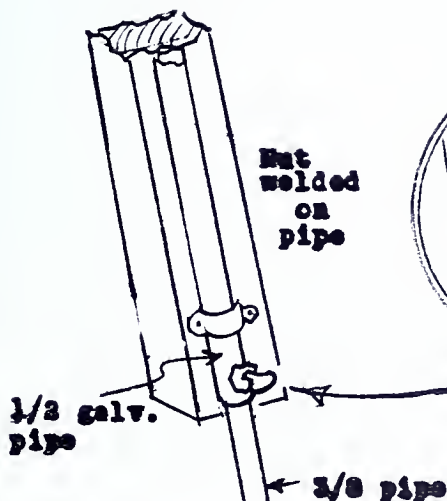


Bait and tackle box.

perforated bottom



2x3 legs. All other material 1x4.



Nut welded on pipe

Thumb screw

1/2 galv. pipe

3/8 pipe

Pipe cap



BUGGING DOESN'T require muscle if the outfit is properly balanced.

Some Bass Bugging Basics

By CHAUNCY K. LIVELY

Photos by author



CARRY a good variety of bugs; you never know.

FOR SOME strange reason an air of mystery has been built up around the use of bugs for bass. There are countless expert trout fishermen who wouldn't think of using anything but the fly rod for trout; yet, when many of these same anglers go bass fishing the fly rod is strangely missing. This has always puzzled me since the transition from dry-fly trout fishing to bass bugging is such an easy one.

Most bass buggers prefer a longer, stouter fly rod than they use for trout fishing. The reason for this is not the size of the fish nor the length of the cast, but the nature of the lure being cast. Bass bugs are heavier and more wind resistant than trout flies, requiring a heavier line and leader. In turn, the heavy line dictates a rod of sufficient power to handle it comfortably. Ideally, the rod should be selected last, based on a prior selection of a line to do the casting job required, but usually the reverse is true.

It's not easy to generalize about bass bugs since there is such a wide variety of shapes and sizes, but my own experience in Pennsylvania bass fishing indicates that river smallmouth prefer smaller bugs than their largemouth cousins. I could be perfectly happy with a selection of smallmouth bugs of size #6 and smaller, while for largemouth I would want plenty of #4's and #2's. Hooks of relatively fine wire make for easier casting and long shanks, particularly in cork poppers, insure good hooking. The heavy-wire #2/0 hooks used in some of the commercial bugs make casting a miserable chore and are totally unreasonable for fresh water fishing.

To handle wind-resistant bass bugs there is no better line than the torpedo-head taper. Concentrating the weight to the forward thirty feet or so, the torpedo-head allows a long shoot with a minimum of false casting. A nylon floating line of size WF-8-F (AFTM scale) will handle most bugs from size #4 and smaller, while a WF-9-F may be preferable if larger bugs are to be used.

Having selected a line to suit the casting job at hand, it's now time to pick out a rod that will handle the line in the best possible way. There is no general way to relate rod length or weight to specific line sizes, despite the fact that charts have been published to show that a rod of X length and Y weight will take a size Z line. A rod's resistance to bending is the real determiner of matching line weight. It is possible for a manufacturer to build a stiff eight foot rod which would require a heavier line than a nine foot rod of softer action. Nor is rod weight a valid basis, for some rod makers use heavier-than-usual reel seats and other rod fittings, contributing to more overall rod weight but adding nothing to the rod's power. Fortunately, most rod manufacturers make specific line recommendations for their rods and these can be relied upon. Too, at least one line manufacturer publishes a list of practically every known make and model of fly rod, specifically matching his own line sizes to each rod.

The action of a bass fly rod should be slow (but not soft) and the rod should bend clear down to the cork grip. The slow rod works in harmony with the heavy line and wind-resistant bug, making for nearly effortless casting once proper timing is acquired. The stiff-butt, fast tip rod should be avoided for it not only requires more work with the casting hand but tends to cast a narrow loop that sometimes causes the bug to foul the line before it turns over.

Most bass buggers prefer a rod of 8½ to 9 feet in length because a shorter rod with power enough to handle the heavy line is generally too stiff and fast for pleasant casting. My favorite bass rod is a 9½ footer with super-slow parabolic action, that weighs a shade over six ounces. I take a lot of friendly ribbing about that big rod but with a WF-9-F line it will comfortably cast a big bug as far as one can safely hook a fish. And the extra length is handy, too, when we're wading the big Allegheny up to our wader tops or working a shoreline, seated in a boat. If bass bugging is hard work it's because of mis-matched tackle, for a perfectly balanced outfit will cast a bass bug nearly as effortlessly as a good trout rod casts a dry fly.

Bass leaders should be as long as the rod and tapered

from a 36" butt of .023" nylon to a tippet of .010" or smaller. The reel should be big enough to accommodate the line plus some backing without crowding.

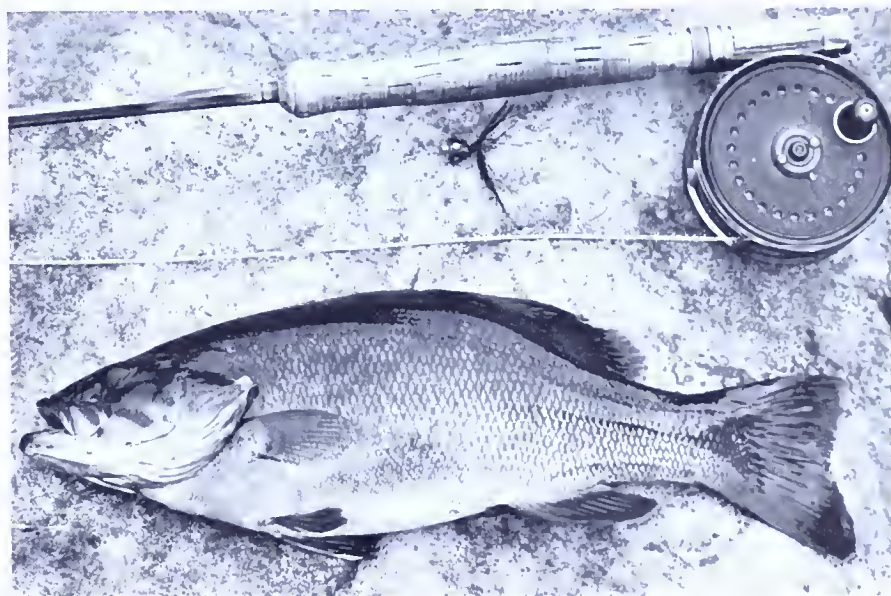
While bass can occasionally be taken on bugs in deep water it is usually better to concentrate on water of four foot depth or less. The shallows are the morning and evening feeding grounds and it is here that bass bugs shine. Exceptions are drop-offs or rocky ledges in lakes or where logs or other overhead cover furnish shade and shelter to shoreline bass.

In the big rivers it's a good bet to work around large, sunken boulders, particularly those along the shoreline—or midstream near the tail of a long flat. Smallmouth congregate around or under this kind of cover when they're resting and a bass bug will often tease them out during the heat of the day.

In lakes I like to bug along the edges of weed beds or in the openings in the lily pads. Stumps, brushpiles or anything that furnishes cover is a potential bass hide-out. Plenty of bass have been taken from the shade of a boat dock, where forage fish swarm and living's easy. Bugging is best when the surface is unruffled; on windy days when the lake is choppy it's best to seek out a sheltered cove. Above all, take your time when you're working a bass bug. On still water, slow your retrieve down to a snail's pace and you'll catch more bass. Bass are born bullies and will pick on crippled prey that can barely navigate in preference to a healthy specimen that requires chasing.

Bass bugging can be full of surprises. Like the northern pike that gobbled a frog popper after dark last summer at Canadohta Lake. And another that inhaled a Marapole near a weed bed the next morning and cartwheeled all around the boat. Any fish that surface feeds and can get his mouth around a bass bug is fair game. The thrill of the rise is the same, whether it be a trout to a dry fly or a big smallmouth to a bug. And nothing can equal the feel of a good fish hooked on the long rod.

Why don't you join the believers and give bass bugging a try?



RIVER SMALLMOUTH can be suckers for bass bugs.



MR. & MRS. MOUSE with shirt-pin eyes, clipped deer-hair bodies, and shoe lace tails.

“The Eyes Have It!”

By A. I. “PAL” ALEXANDER

FISHERMEN have known for years the attraction that fish have for eyes on lures and flies. Apparently, the impression of an eye in a moving fly or lure provides the “clincher” to the fish—the assurance that what it sees is the real thing.

Obviously, fish take many imitations that do not have an eye but fishermen who favor the eyed imitations ask, “Why take chances?”

Let's take a look at some of these eyes and see how they are constructed. Most of them are very simple, readily available, and highly effective. Even a very plain lure or fly takes on a new appearance with the addition of an eye. Once the flytier starts thinking eyes, there is no end to the possibilities.

Probably, the most usual place we are accustomed to seeing an eye is on a streamer fly or bucktail. Traditionally, thousands of these patterns call for a jungle-cock feather to be tied in along either side of the head of the fly to represent eyes.

The jungle-cock feathers come from a wild bird and are either white or light tan in color. The color seems to make no difference. Frequently, however, these feathers are split causing some annoyance to the flytier. A little head cement or lacquer on both sides of the feather—before it is applied—and a gentle caress of the fingers take care of all but the most seriously damaged ones. In actual use they will soon split again but a fly always looks more properly dressed with the jungle-cock feathers joined.

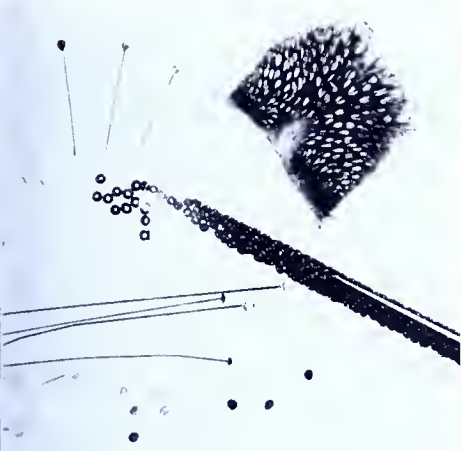
Eyes painted on the head of a streamer or bucktail make even the most simple dressings attractive. Eyes are painted on in two stages. First, make the pupil by dipping a flat-headed nail in the colored lacquer. When this has dried sufficiently, make the iris by dipping the head of a small finish nail in a lacquer of a different and contrasting color.

A tier with steady hands, of course, can perform both operations with a bodkin. In either case, it is advisable to tie up a number of flies and paint all the eyes on at one time to do it efficiently.

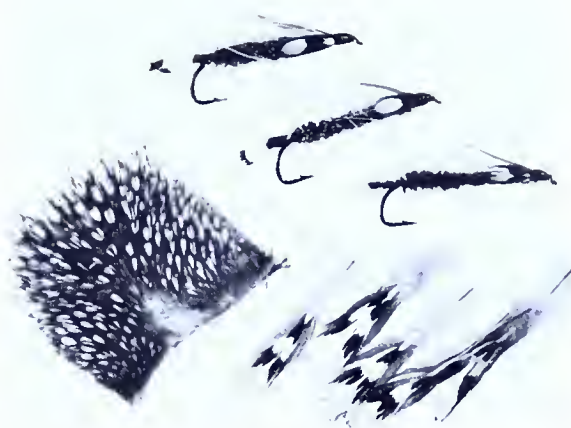
I think the most exaggerated form of an eye is found in a series of flies called “Optics.” Here, the eye is made by gently pressing a piece of lead split shot on the shank of the hook with a pair of pliers, and then painting it in the conventional manner described above. The split shot, in addition to forming the base for the eye, adds a considerable amount of weight to the fly, getting it down to the fish.

Another pop-eyed creation simply put together is a fly pattern called the “Boss.” This is made by cutting two links from a light-socket chain, or key chain, and tying in at the head criss-cross fashion. The hole in the chain gives the appearance of the iris. The chain comes in either gold or silver finish and is left unpainted.

Eyes on poppers can be made with map pins to produce real large goggle eyes. Map pins come in a variety of colors. A drop of colored lacquer on the head of the pin will do for the iris. Make sure the pins are installed



ED to make eyes referred to in text. Key light-socket chain, shirt pins, jungle-cock embroidery beads, glass eyes on a wire, and punched paper discs.



LIGHT EDSON TIGER bucktails and jungle-cock feathers.



KEITH FULSHER'S "Black-Nase Dace Bucktail" and the "Squirrel Tail" with painted eyes.



bucktail and split shot.



POPPER with map pins for eyes.



POPPER with paper discs for eyes.

symmetrically in the popper or it will have a tendency to lean to one side or the other when it is in the water.

For eyes that are flush with the popper, paper discs can be cut or punched out of colored paper and cemented on the lure. Be sure to lacquer over the eye thoroughly to give it some permanence. This is not as professional or enduring as painting the eyes on but it has the advantage of requiring no artistic dexterity.

Eyes on a deer-hair bug can be made from a number of various items depending upon the particular lure. If the deer hair is clipped very short, a couple of embroidery beads can be tied on a separate piece of string and then tied in, locating the beads in the eye position. When the hair is not clipped short, the trick is to have the eyes on a short length of wire. The purpose of the wire is to allow the eye to be supported up off the shank of the hook. Dealers of fly-tying materials carry these eyes in various sizes on a wire and the tier can cut, bend, and tie them in to his own particular requirements. Shirt pins with a silver or black head can also be used in a similar manner.

The important thing, of course, with all these eyed lures and flies is that they contribute to a realistic impression and help catch more fish. The addition of eyes will not



THE "BOSS" bucktail with beaded chain for eyes.

Pattern: Tail —Black ringtail
Body —Black yarn
Rib —Flat, wide, silver tinsel
Hackle—Orange

make a bad pattern or a lure a good one but it will make a good one better.

Next time you tie up, consider the eyes carefully, and decide whether they are worth putting on or not.

I dare you to not put them on.

Many fishing lures have

A Home In The Hills

IT IS rather a strange thing that in Pennsylvania, one of the foremost fishing states in the nation, most of the lures used by anglers are imported from other states. There is one important exception to this rule at Alexandria, Pennsylvania, home of Phillip's Fly and Tackle Company, and its president, Phillip Patterson.

Here are produced both feather and plastic lures and a combination of both in all sizes and shapes. Artificial flies run in patterns from a tiny No. 24 for trout up to 6/0 for salt-water species. It all started back in 1938, with one woman employee tying flies. Today, employment goes from a low of 10 during the off season to a high of 30 during the busiest periods.

Now, Phillip's lures may today be found in many types of retail establishments. Nevertheless, demanding anglers still seek out those stores where experienced salespeople can help them in their selection of lures for the locality.

Don't ask me how to get there, because I don't think it's possible. However, up to 30 workers daily find Phil Patterson's Fly and Tackle Company at Alexandria.

It was not always so. Up to the late 50's, Phillip's Fly and Tackle Company was located in the town of Alexandria right on the main street. It was easy to find, if you could find Alexandria. I sought the place out once to find where the popping bugs came from which were among my favorite lures. I made the trip twice and be-

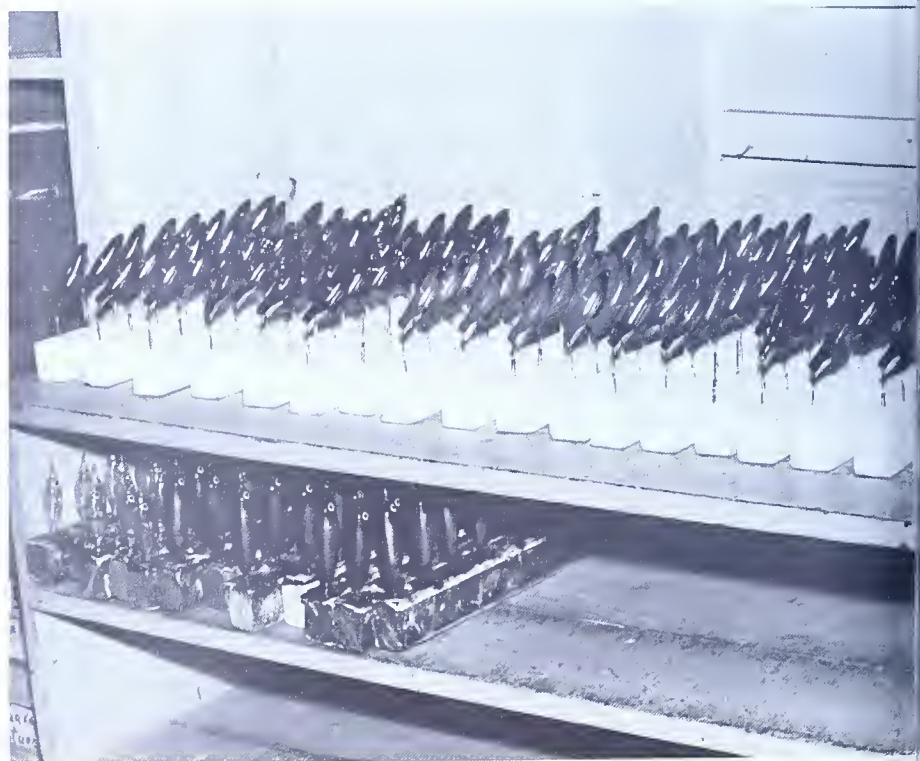
came lost both times before I located the lovely ranch-type home which neatly hides the lure factory located in the basement.

Actually, remoteness of the lure plant is an advantage. During the busy season, everything is going at top speed, no interruptions in the daily routine by the curious.

Although lure making is essentially an assembly job, all but the fish hooks, the hair and feathers which adorn them, and the plastic blanks are manufactured in this busy shop.

Originally devoted to the manufacture of artificial flies, streamers, and bugs for the 10% of anglers who employ them in their fishing, the advent of spinning after World War II opened a new and important market. Many of the original lures were enlarged or adapted to the use of spinning tackle. This naturally evolved into the production of plugs, the manufacture of which comprises an important part of the total operation today.

Original sales were primarily to individual sporting goods stores across the country. As mass selling methods developed and fishing tackle moved in to share the shelves in stores which handled many items, the market expanded to accommodate the need. Although stores which specialize in sporting goods still provide a large segment of the customers, the business boasts many varied outlets. Phil is a genial host, and he would not let you get away without a grand tour of his place.



A COMBINATION of electric heat and powerful pressure turns out plastic blanks which are fashioned into the finished product.

TENITE PLASTIC BLANKS rest on drying racks before being assembled as finished lures.

Pennsylvania

By KEITH C. SCHUYLER

Although the factory may be hard to find, its products find their way to every state in the union and province of Canada and as far distant as South Africa. Since the manufacture of fishing lures has a minimum space requirement, Phil is able to turn out hundreds of thousands of lures a year in a relatively small area.

With the advent of mass selling methods, it was mandatory that equipment be installed to encase the lures in plastic. Not only does this provide for a much more attractive display, lures come to the customer in the same condition that they leave the workbench. Where stores use fishing tackle as a seasonal leader, they are now able to store lures from season to season without damage or deterioration to them.

One machine, that Phil priced at \$2,500, was designed exclusively to seal the lures inside a plastic bubble which was then attached to a display card. This busy fellow, who holds a degree in chemical engineering, designed his own machine and built it at a cost of a few hundred dollars. Although the company's growth and reputation was built mostly around the manufacture of fresh-water lures, with the accent on surface lures, the trend in recent years has been toward salt-water offerings. The old standbys have not been neglected, but considerable attention has been given to the development of lures for the big fish which come close to shore. Lures for tarpon, striped bass, and bone fish are among the leaders pro-

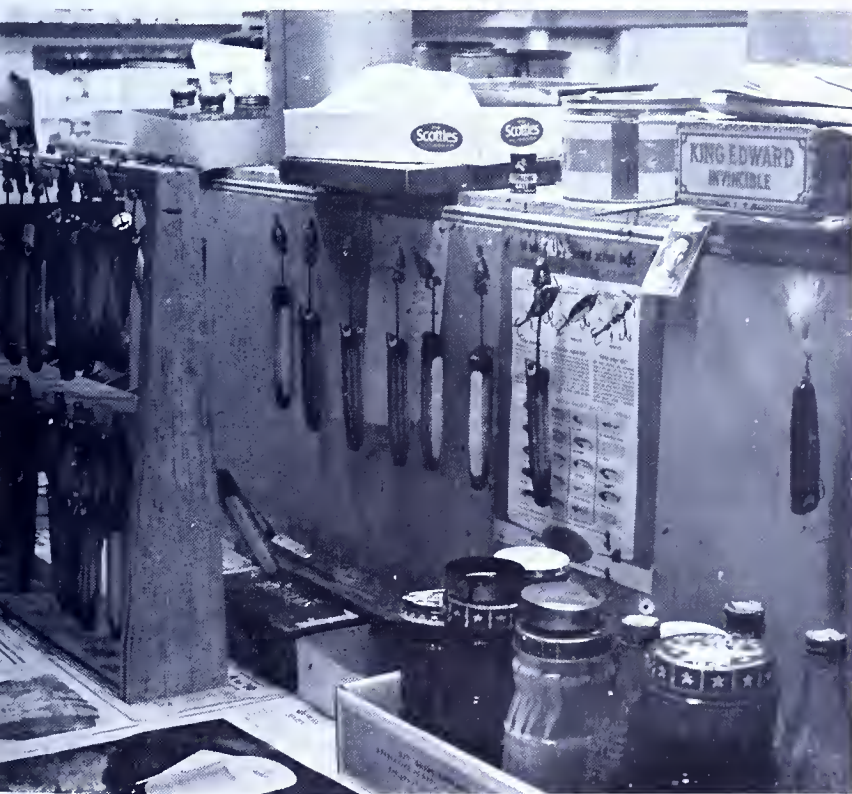
duced in the hills back of Alexandria, Huntingdon County.

Considerable excitement has been attached to development of new lures which employ the use of milar that gives them a special flashing quality. One new lure, known as the "Rainbow Runner," has stirred up more than usual interest.

Most of the work at Phillips is done by women. The dexterity which has made women valuable to the electronics industry has a counterpart in the production of tiny flies and the addition of feather and fur trimmings on various type lures. After the tenite plastic is formed into the proper shape for the lure intended, application of paint and other trimmings is best handled by those who have a special touch for this sort of thing.

Since moving from the rather cumbersome lay-out in the small community of Alexandria, Phil Patterson has encountered only one serious problem. Being an avid angler himself, he finds it increasingly difficult to find time to indulge his desires in this direction. Not only does Phil enjoy fishing himself, he picks up many of his ideas on location and then applies them to his business.

Despite the remarks here about the semi-remoteness of Phillips Fly and Tackle Company, this factory makes a real contribution to the world of outdoor sports. Not only does it provide substantial employment for the people who live north of Huntingdon, its influence is felt throughout the fishing world.



SPECIAL PAINTING methods provide a scale-like finish over the flashing milar plastic which is today an integral part of many fishing plugs put out by Phillip's.



PHILLIP PATTERSON makes final inspection on one of the several hundred thousand lures produced by Phillip's Fly and Tackle Company each year.

FLORIN ANGLERS' TROUT NURSERY

By BOB MILLER



Bill Rathman, of the Florin Anglers, exhibits one of the screens formerly used in the trout hatching process.



Feeding pellets to the breeders are Harold Buller, Bill Rathman and George Kaley.

A THOUSAND or more trout are stocked each spring in the Donegal area of Lancaster County through the efforts of a small group of sportsmen who exhibit a keen interest in expanding the trout population and work hard, year around, to achieve this goal.

Responsibility for this project, which includes breeding, raising and stocking, rests on the Florin Anglers, a small organization which, by the terms of its charter, is limited to 25 members.

George Kaley, of Mount Joy, one of the extremely active members of the organization, explained it was founded about ten years ago and, at the start, purchased fry, raised them to the desired size, and then stocked area streams. This proved a bit expensive for so small an organization so that three or four years later they began the breeding operation and augmented the supply by occasional purchases.

This too is an expensive operation, means a lot of work and costs the club between \$1,500 and \$2,000 a year. Luckily the club holds a commercial license and meets this yearly expense by selling to fee fishing establishments.

The club quarters, located in an old stable, is situated about midway between Marietta and Mount Joy, near the junction of the Donegal Creek and Charles Run. Nearby on the well trimmed lawn, next to the holding pens, are picnic tables and fire place for family picnics during the summer months and a well stocked lake provides plenty of entertainment for the youngsters.

Trout raising facilities include a spring house in which the eggs are hatched, pens where the female of the species, and the buck, are separated; a partitioned concrete race-way to hold the fry, and long holding pens into which they are deposited when they reach three to four inches long. The latter is separated into several pens and the trout, as they grow, are transferred from one to another until they reach the last pen and are ready for stocking. By that time they are 12 to 14 inches long.

Both holding pens are fed by spring water. One spring rises in the spring house, where it is used to hatch the eggs, then flows through the area containing the breeders, then into the race-way and out into the man made lake. Two corrugated steel pipes transfer the overflow water underground to the holding pens across the way.

The second spring originates in the basement of a nearby residence, where the first trout were raised, and flows the length of the holding pen. Thus the club does not have to depend on either of the two nearby streams.

Kaley, who evidently knows the procedure from start to finish, explained in quite simple terms the procedure carried out by the club which, although simple in nature, requires a lot of time and effort on the part of everyone.

FISHING IN A FARM POND

This article is in answer to the many questions concerning the fishing in "farm ponds." It first must be remembered that to be a farm pond, the pond must be built on a farm. A farm pond is an artificially constructed pond. The Fish Commission has accepted the U. S. Department of Agriculture's definition of a farm. A farm is a tract of land consisting of 3 or more acres upon which crops are grown and sold for \$300 or more the preceding year, exclusive of garden produce.

It must be remembered that the only persons who may fish without a fishing license are persons who reside on the farm the year around. It could be the owner and his immediate family or the tenant farmer and his family and regular hired help. In other words, if the owner of the farm resided in town, he would need a license to fish the farm pond and would be required to abide by the seasons, sizes and creel limits.

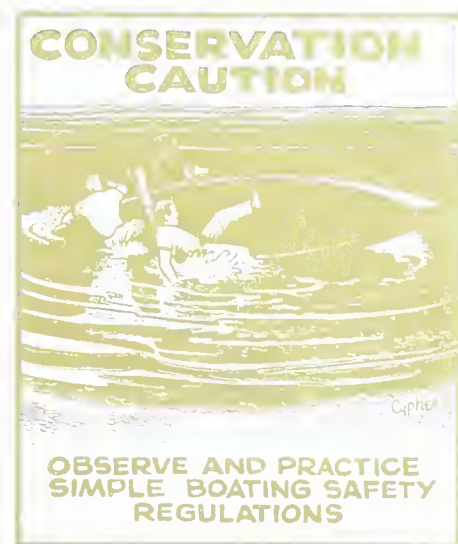
Persons residing on the farm may fish any time of the year without regard to species, size or number. All other persons fishing therein must abide by the seasons, sizes and creel limits just the same as if they were fishing in any other stream or body of water, and need proper fishing license.

When any trout or bass which have been lawfully taken from a farm pond are to be transported off the premises during the closed season for such fish, the owner or lessee of the farm shall give to the person transporting the fish a written statement, signed by him, showing the date, place and by whom the fish were taken, the number and species of the fish.

JOSEPH S. DICK

Fish Warden

(In Somerset County Soil
Conservation Bulletin)



First the adults are stripped once a year, during October and November, and to prevent injury to the fish during handling, about ten seconds are all that are required per fish, each is placed in a solution containing 60 cc's of Methyl Pentyrol diluted in ten gallons of water. This puts them asleep long enough for the stripping operation.

The eggs are then deposited in a jar, containing a quantity of gravel, placed inside the spring house under one of a series of long tubes through which the spring water trickles. The tube sends the water to the bottom of the jar, then up and around the eggs, while the gravel is used to prevent the eggs from swirling around.

There are a series of eight jars, each two labeled with the date of the stripping operation to keep track of time since 30 days later they are ready to begin hatching.

Exhibited by Bill Rathman, of Elizabethtown, and Harold Buller, of Mount Joy, were a pair of metal screens which were used for the hatching process before the club decided on the jars. In this case the tiny fry would slip through the wire leaving the dead eggs on top.

After hatching the fry are placed in one of the race way pens, until they reach three to four inches long, and are then transferred to the holding area. They are fed three to four times a day for about three weeks. This is then cut back to twice a day and later to once a day unless the club decides to push their growth.

Incidentally wet food, lungs and spleen obtained from a butcher shop, is fed during the first few weeks. Later a commercial pellet type food is used, about two tons are dumped into the pens each year, and this results in an average growth of eight to ten inches a year.

"We stock mostly brown trout," said Kaley, "since they have a tendency to remain in the general area."

Brook trout generally don't hold up as well from one season to the next and rainbows have a habit of moving off. The club's lake has mostly rainbow trout, plus a few brown and brook trout.

The lake, which ranges in depth from four to six feet, is open to fishing by members and their families only and then only with barbless hooks. Members are permitted to kill 30 fish a year and some lunkers, 20 inches or more, have been taken from the deep end. Right now, as far as most of the adults are concerned, Pop would rather supervise and let Johnny do the fishing.

In line with the trout program one of the club officers, Ken Depoe, of Mount Joy, secretary, has initiated a program to improve the nearby Donegal Creek as a trout run. In his spare time he uses old railroad ties along the banks to prevent erosion and to provide a silt free stream ideal for trout. As a result, on the opening day of the season, Kaley tells me the fishermen are lined up practically shoulder to shoulder.

Bob Nentwig, of Mount Joy, is president of the group; and Jim Gerber, of Mount Joy, treasurer.

The Florin Anglers, incidentally, is the only organization in Lancaster County which carries out such a project from beginning to end and, from all indications, has done much to augment the work being performed for the trout fisherman by the Pennsylvania Fish Commission.

PENNSYLVANIA FISH COMMISSION'S NEW ACCESS AREA AT FALMOUTH ON THE SUSQUEHANNA



LARGE EARTH MOVING equipment handles the task of grading and clearing the former Walter Hess property, along the Susquehanna River at Falmouth, following its acquisition by the Pennsylvania Fish Commission for development into a new access area. Hess, a Falmouth grocer, still maintains a boat livery along the shore of what was formerly known as "Hess Landing" along Rt. 441, just south of Middletown.



A GENERAL VIEW of the new PFC access area at Falmouth, taken early in 1966 when the Susquehanna River was running high with not too much fishing although a few legal size muskies were being taken. This is the "hottest" muskie area in Lancaster County and it has produced record size fish since this species was introduced into the river some years ago. Not to be forgotten are walleyes, bass and channel cats.



100th ANNIVERSARY CITATION awarded to Robert J. Bielo, executive director Pennsylvania Fish Commission, by Frederick J. Starling, III, President, Pennsylvania State Fish & Game Protective Assoc. Occasion was 87th dinner of the association held in Philadelphia.



WALTER HESS, of Falmouth, and Ralph Blessing, of Wrightsville, a member of the engineering staff of the Pennsylvania Fish Commission, view the sign along Rt. 441, at Falmouth, indicating the location of the new Falmouth access area along the Susquehanna River.

WORM CONTROL: Put plastic worms in a jar of water to keep summer heat from melting them all over your tackle box.

* * *

A teacher asked her first grade class how Noah spent his time on the Ark. As there was no response from the class, she added:

"Do you suppose he did a lot of fishing?"

"What?" responded one little 6-year-old, "with only 2 worms?"—Lawrence Hembree in QUOTE.

* * *

The name "electric eel"

Seems just exactly right.

But what did people call it

Before Franklin flew his kite?

OPERATION FISH SAVE

The day the ice broke on the Neshaminy Creek, we were fortunate enough to be in the right place at the right time. Our home is located only a few yards from the creek but high enough that we don't have to worry about flooding. On Sunday afternoon the 13th of February, my family and I were looking out the second floor window. The rain of that and the previous day had melted through the snow-covered ice to a point where you could see open spots where the turbulent water was pushing through to run out on top of the ice in little waves about an inch high. As if at a signal, the entire ice-covered creek started to move, slowly at first, but picking up speed very fast. A tree on the opposite bank that had fallen into the creek about a year ago but was still alive because of the large roots holding on to the bank, was ripped out as if it were a mere twig. By this time we were out by the creek and could hear the rushing and grinding sounds that only ice breaking up can make. Large pieces of ice, some must have weighed tons, could be seen standing on edge and then tumbling and breaking into smaller pieces. In the period of about 10 minutes, the creek rose about 2 feet and was a mass of turning, tumbling cakes of ice. As the water rose, the field mice which made their homes along the creek bank were driven to higher ground. The little fellows sure would have a strong opinion of our flood control program!

The lowlands that adjoin our property were soon flooded and in some places the water and ice were approximately a hundred yards out of the normal creek banks. In the main current you could see trees and debris go swiftly by as though they were on a track of some kind. We saw some neatly cut firewood go whizzing by. I'll bet the next time the owner won't stack it so close to the creek bank. Well, we learn by experience, they say! The flooding conditions remained overnight, and as the water receded it left large and small puddles in the indentations of the lowlands.

That afternoon when the children returned home from school, we started our yearly project of "operation fish save". In the puddles I mentioned many fish were trapped and destined for an unwatery grave if we didn't get them back to the main stream. So we waded around in the puddles, "cornered" the fish and picked them up and carried them back to the creek. My son Boyd, age 9 and his friend, Kurt Buehrer, age 8, and I were kept busy for two afternoons at this project. The following is our approximate count: 20 carp, 4" to 30"; catfish, 3" to 10" 15 bass, 4" to 10"; 2 pickerel, 6" to 8"; 3 turtles; many sunfish, and a few unhappy sleepy frogs. These were all found in a 2 to 3 acre area. I am sure that thousands of fish are lost every year from these conditions.

The next time the creek in your area "runs over", why don't you join us in "Operation Fish Save"? It is a very interesting and rewarding project.

Harry Steinbach

* * * *

FISH SCALER: Of course you know that bottle caps nailed to a piece of broom handle make one of the finest fish scalers that money doesn't have to buy.

WATCH THAT BURN!



LIBERAL DOSES of suntan lotion will prevent the annual Spring complaint, "Watch out for my sunburn!" Boatmen should be especially aware of sunburn. Water reflects the sun's rays and increases their intensity.



FAMOUS STREAMER FLY BOOK NOW AVAILABLE IN A REGULAR EDITION!

Since the famous book "STREAMER FLY FISHING—In Fresh and Salt Water" went out of print over 10 years ago it became a coveted collectors' item usually selling for upwards of \$50.00 per copy to those so fortunate as to locate one.

The demand for republication became so great that the author and The Stackpole Company completely revised the book and brought it up to date in both a 600 copy limited edition and in a regular edition. The limited edition completely sold out two months prior to publication, but the author had the foresight to purchase some copies for resale, which now can be obtained from him for \$35.00 per copy. The law of supply and demand makes it almost certain that this price will go up, and that the copies available from the author won't last long.

Now, the good news is that a regular edition is available from bookstores at \$7.95 per copy, or by mail from the author at \$8.00 per copy, including packing and mailing.

DIRECTORY OF BLUE BOOK AGENTS

Additional places for subscribing to the **PENNSYLVANIA ANGLER** and where the latest and newest Pennsylvania Fish Commission **FISHING REPORTS** and **INSTANT INFORMATION** are available.

Allegheny County—Glenn's Sports and Hobby Shop, 4129 Brownsville Road, Pittsburgh, Penna.

Berks County—Kagen's Inc., Reading, Penna.

Bucks County—Andrew Maroney—Andy's Sport & Hobby Shop, Yardley, Penna.

Cambria County—Shoff Sporting Goods, Ebensburg, Penna.

Chester County—Daniel W. Bullock, Berwyn, Penna.

Franklin County—P. Paul Overcash, Chambersburg, Penna.

Jefferson County—Deman's Sporting Goods, Brookville, Penna.

Lackawanna County—Eynon Drug, Eynon, Penna.

Lackawanna County—Edward Rebar, Throop, Penna.

Lehigh County—Gerald T. Chapleski, Allentown, Penna.

Lehigh County—Paul Daubanspeck, Allentown, Penna.

Lehigh County—Pete Nestor, Nestor's Sporting Goods, Inc., Allentown, Penna.

Northampton County—Charles Schwartz, Bethlehem, Penna.

Schuylkill County—Joseph Kopena, Mary-D, Penna.

Susquehanna County—Halls Sporting Center, New Milford, Penna.

Warren County—F. J. Erich Sporting Goods Store, Irvine, Penna.

York County—Harry Haines, Lincoln Highway Garage, York, Penna.

York County—Squab's Outdoor Shop, York, Penna.

Tip-O'-The-Month

By C. BOYD PFEIFFER



BRUSH SUBSTITUTE

Tackle tinkerers are forever painting or repainting jigs, spoons, plugs, bass bugs, and other lures. With the variety of colors that can be used in one evening of work, this can make for a pretty heavy investment in brushes. Also, small brushes are difficult to clean and keep supple for the next paint job. A good substitute for a brush is the cotton tipped applicator stick found wherever baby needs are sold. They are easy to use and a box is so inexpensive that they can be disposed of after using. While sometimes the cotton will tend to "shed" and leave streaks, a slight twirling of the stick will prevent this and also give a smooth glossy coat to the lure.



FREE COLOR CHART

COMMON FISHES OF PENNSYLVANIA WITH ALL NEW AND RENEWAL SUBSCRIPTIONS TO *Pennsylvania Angler*

Enclosed is \$..... for my (New) (Renewal)
(Gift Subscription)

1 year (12 issues) \$2.00

3 years (36 issues) \$5.00

Please send to:

Name

Address

Town Zip Code

Make check or money order payable to the Pennsylvania Fish Commission

Mail to—PENNSYLVANIA FISH COMMISSION
HARRISBURG, PA.

Cash sent at your own risk. STAMPS NOT ACCEPTABLE.



"I SAID DON'T ROCK THE BOAT"





NATIONAL GOLD CUP "for achievement in boating safety" 1965 comes to Pennsylvania. Very happy about it are: left to right, Thomas A. Gangewere, member of the Boating Advisory Board; Cdr. E. R. Tharp, Assistant Executive Director, in charge of watercraft safety, Pennsylvania Fish Commission; Martin R. Horlacher, Chairman of the Boating Advisory Board (holding cup); John W. Grenoble, member, boating committee of the Pennsylvania Fish Commission; Norman H. Beebee, Vice Chairman of the Boating Advisory Board and President of the Pennsylvania Boating Association and Robert E. Synnestvedt, Pennsylvania Boating Association.

38.31
6
2

P

ennsylvania

AUGUST 1966 — OUR 100th YEAR



ANGLER

PENNSYLVANIA STATE LIBRARY
DOCUMENTS SECTION AUG 15 1966





GOVERNOR WILLIAM W. SCRANTON holds the National Gold Cup Award to the Pennsylvania Fish Commission "For achievement in boating safety—1965" as a part of Pennsylvania Safe Boating Week—July 3-9. At left holding boating week safety poster is Robert J. Biela, executive director, Pennsylvania Fish Commission. At right is Commander Edward R. Tharp, assistant executive director, in charge of watercraft safety.



Seated: center, Governor William Scranton signs Pennsylvania Safe Boating Week Proclamation; left, Robert J. Biela, Executive Director of the Fish Commission; right, Cdr. E. R. Tharp, Assistant Executive Director of the Fish Commission, in charge of Watercraft Safety. Standing: Ward Danohue, Captain, U. S. Coast Guard Auxiliary, Div. V; Lee Tiltan, Navigation Commission for the Delaware River; Norris Whistler, Vice Cdr., York Power Squadron; James J. Walls, Executive Secretary, Navigation Commission for the Delaware River; Earl Hill, Cdr., Susquehannock Power Squadron; John Coslett, Cdr., Delaware River Power Squadron; Martin T. Grothe, Commodore, Susquehanna Yacht Club; Gustave F. Straub, Chairman, Pennsylvania's Boating Educational Committee and Legal Officer for the U. S. Power Squadrons; Melvin S. Gardner, Regatta Officer, Susquehanna Yacht Club; D. W. Roberts, Pittsburgh Safe Boating Committee; Charles W. Steele, Bay Scouts of America; Norman H. Beebe, Vice Chairman, Boating Advisory Board and President, Pa. Boating Association; Howard R. Heiny, Vice President, Penna. Fish Commission; Thomas A. Gangewere, member of the Boating Advisory Board; John W. Grenable, member of the Fish Commission; Martin R. Horschler, Chairman, Boating Advisory Board.

Commonwealth of Pennsylvania



Governor's Office
HARRISBURG

June 23, 1966

GREETINGS:

Last year Pennsylvania won national recognition by reducing boating fatalities over 66 per cent. The National Gold Cup for Boating Safety was awarded to the Fish Commission's Office of Watercraft Safety, whose sensible regulations, skilled water patrolmen, and public education courses contributed to this achievement.

This year our boating safety program is being expanded and intensified under the guidance of the Fish Commissioners and Advisory Board, with the continued cooperation of the United States Coast Guard Auxiliary, the United States Power Squadrons, the American Red Cross, and other boating organizations.

It is, therefore, with special pride in our current accomplishments, and with every hope for further achievement this year, that I proclaim July 3-9, 1966, as SAFE BOATING WEEK in Pennsylvania, and I urge all who enjoy our waters to exercise vigilance, courtesy and common sense so that Pennsylvania will remain a leader in boating safety.

William W. Scranton

WILLIAM W. SCRANTON
GOVERNOR

PENNSYLVANIA FISH COMMISSION DIRECTORY

EXECUTIVE OFFICE

ROBERT J. BIELO
Executive Director

GORDON TREMBLEY
Assistant Executive Director

EDWARD R. THARP
Assistant Executive Director
Watercraft Safety

WARREN W. SINGER
Assistant to Executive Director

PAUL F. O'BRIEN
Administrative Officer

JOHN M. SMITH
Comptroller



DIVISION DIRECTORS

KEEN BUSS
Research and Fish Management
R. D. 1—Box 200-C
Bellefonte, Pa.—16823

HOWARD L. FOX
Propagation and Distribution
Bellefonte, Pa., R. D. 3—16823

GLEN SPENCER
Real Estate
Harrisburg

EDWARD MILLER
Engineering
Bellefonte, Pa., R. D. 3—16823

WILLIAM W. BRITTON
Law Enforcement
Harrisburg

ARTHUR BRADFORD
Pathology
Bellefonte, Pa., R. D. 1—Box 200-C
16823

GEORGE FORREST
Public Relations
Editor
Harrisburg



REGION ONE

CLAY CARLYLE SHELDON Warden Supervisor
Uniontown 16353 Phone: 814-755-8811

REGION TWO

JOHN I. BUCK Warden Supervisor
R. D. 2, Somerset, Pa. Phone: 814-445-4913

REGION THREE

CLAUDE FLEEGER Warden Supervisor
151 Terrace St., Honesdale, Pa.,
Phone: 717-253-3724

REGION FOUR

HAROLD CORBIN Warden Supervisor
R. D. 2, Annville, Pa.,
Phone: 717-273-2601, Ex. 86
G. M. R. 17003

Pennsylvania Angler

Published Monthly by the
PENNSYLVANIA FISH COMMISSION
COMMONWEALTH OF PENNSYLVANIA

William W. Scranton, Governor



PENNSYLVANIA FISH COMMISSION

ROBERT M. RANKIN, President Galeton
HOWARD R. HEINY, Vice President Williamsport

GERARD J. ADAMS Hawley	JOHN W. GRENOBLE Carlisle
JOSEPH M. CRITCHFIELD Confluence	DOUGLAS MCWILLIAMS Bear Gap
WALLACE C. DEAN Meadville	R. STANLEY SMITH Waynesburg
RAYMOND M. WILLIAMS East Bangor	



AUGUST, 1966

VOL. 35, NO. 8

Contents

- 2 PRINCE GALLITZIN STATE PARK—A. Carmen Cammarata
- 5 HUNTING DRAGONS IN PENNSYLVANIA—Carsten Ahrens
- 8 THE HISTORY AND EVOLUTION OF SPORT FISHING—Keen Buss
- 10 RECIPES FOR CARP—Don Shiner
- 12 A FROGGING WE WILL GO—Ted Fenstermaecher
- 13 MAKE MINE KING SIZE—Albert G. Shimmel
- 14-15 ANOTHER PHILADELPHIA STORY—Franklin Williamson
- 16 DIRECTORY OF PENNSYLVANIA MARINAS, ACCESS AREAS AND BOAT RENTAL FACILITIES—Robert G. Miller
- 19 LAZY MAN'S SMOKED TROUT—Walter Haussamen
- 20 FISH CLEANING BOARD—Hi Sibley
- 21 LADY, DO YOU HAVE BASS BUGS?—Jim Hayes
- 22 THERE'S SOMETHING BIG OUT THERE—Joe Hightower
- 23 NOTES FROM THE STREAMS
- 25 COOPERATION . . . PLUS—Jim Donahue

Cover art by Ron Jenkins

POSTMASTER: All 3579 forms to be returned to Dunlap Printing Co., Inc., Cherry and Juniper Sts., Philadelphia, Pa. 19107.

The PENNSYLVANIA ANGLER is published monthly by the Pennsylvania Fish Commission, South Office Building, Harrisburg, Pa. Subscription: One year—\$2.00; three years—\$5.00; 25 cents per single copy. Send check or money order payable to Pennsylvania Fish Commission. DO NOT SEND STAMPS. Individuals sending cash do so at their own risk. Change of address should reach us promptly. Furnish both old and new addresses. Second Class Postage paid at Harrisburg, Pa., and at additional mailing offices.

Neither Publisher nor Editor will assume responsibility for unsolicited manuscripts or illustrations while in their possession or in transit. Permission to reprint will be given provided we receive marked copies and credit is given material or illustrations. Communications pertaining to manuscripts, material or illustrations should be addressed to the Pennsylvania Fish Commission, Harrisburg, Pa. NOTICE: Subscriptions received and processed the 10th of each month will begin with the second month following.

PRINCE GALLITZIN STATE PARK

central pennsylvania's recreational magnet

See Fishing Map of Lake on Page 29

By A. CARMEN CAMMARATA

AERIAL SCENE OF MARINA at Glendale Lake. The facility provides a public boat launch and concession from which boat rentals are made and various types of equipment can be obtained to fulfill the fisherman's needs. (Photo Courtesy Union Press-Courier, Patton)



PENNSYLVANIA's Chief Executive, Gov. William W. Scranton, dedicated the state's newest recreational area, Prince Gallitzin State Park, located in Northern Cambria County on Saturday, May 29, 1965. An impressive ribbon-cutting ceremony was held on a brisk, chilly day at the bathing beach area of Glendale Lake.

Although it seemed like ages from the groundbreaking of the State park until its dedication in May, only seven years had elapsed.

Of course all things must have a beginning.

The idea of some form of recreational area was conceived back in 1955 by the Patton Sportsmen's Association which had, and continues to lease a small dam near the State park.

This organization, in early 1955, wished to establish a dam on Killbuck Run (a tributary of Glendale Lake) northeast of the community of Patton.

An impoundment of water at Killbuck was possible but involved many acres of state-owned land. The sportsmen then took the idea to a civic organization, The Patton Chamber of Commerce. The latter unit, along with energetic leaders, local and state elected officials, saw the possibility of establishing a state park in Cambria County, a district desperately in need of such a recreational area.

This civic organization was successful in inviting the Secretary of Forests and Waters, Dr. Maurice K. Goddard, to a meeting at Patton in order to study the possibility of establishing a State park in the County. Dr. Goddard studied the Killbuck site, which would impound a great deal of water, and then turned his attention to an area (now Glendale Dam) which would impound an estimated 2,000 acres of water. Needless to say that when this area was pointed out all parties concerned were one hundred per cent in favor of such a larger dam. "The bigger the better" was the circulated opinion.

Before making any definite decisions, the state authorities studied other suggested sites throughout the County. But a state engineer of the Department of Forests and Waters found the Glendale site and the Killbuck area more appropriate. Subsequently the Glendale site was chosen.

In order to help insure the construction of a state park in the Glendale area, civic groups, sportsmen's units, elected officials and news media in Cambria, Blair and Clearfield Counties were urged to cooperate for the reason that such a recreational area, centrally located, would benefit all three counties—and cooperate they did. It was stressed that the dam at Glendale would also serve as a flood control project.

On May 3, 1958, George M. Leader, then Governor of Pennsylvania, broke ground signifying the beginning of construction of the state park. In the years that followed the project and its progress was observed by all interested parties. The pace often times did not always satisfy everyone, but all young things must suffer growing pains. Upon completion of the breast, water was allowed to back up in the lake and boating was permitted July 15, 1961.

ORIGIN OF LAKE, PARK'S NAMES

The lake's name stems from a small community known



MARINA—Located in a very picturesque portion of Glendale Lake, Prince Gallitzin State Park, the facility offers boat rentals, bait, lures and various types of gear to satisfy the fisherman's needs. A public boat launch is also located here.

as Glendale that once stood where the breast of the 1,640-acre dam is now located. The park area was named after a Russian prince-priest, Rev. Demetrius Augustine Prince Gallitzin, who established missions in the Allegheny Mountains at the turn of the 19th century.

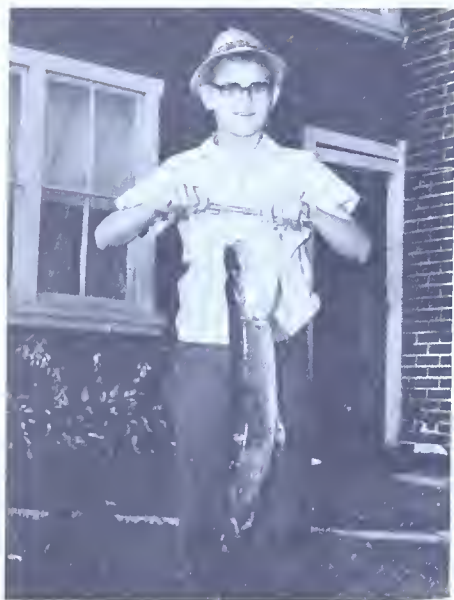
Holding back the 8 billion gallons of water that make up the lake is an earthen breast 60 feet high, 1,800 feet long and 400 feet wide. Its depth is from 0 to 40 feet and its shoreline measures 26 miles. Of course boats are permitted but powered by a maximum 6 h.p. engine. Most fishermen probably would find rowing a boat on a lake this size very tiring indeed.

FISH STOCKED

Among other activities in developing the first-class play spot, the initial stocking of adult game fish occurred in early April, 1963. Included in the planting were northern pike, bass and crappie. Placed in the lake a short time later were 190,500 muskellunge. The Pennsylvania Fish Commission has stocked well over 1 million fish—adult, fry and fingerlings, in Glendale to date.

Three months after the primary stocking, Mr. Gordon L. Trembley, biologist and assistant executive director of the Pennsylvania Fish Commission, conducted a study of the spawn present in the lake. In his report Mr. Trembley stated, "The greatest surprise of this investigation was the very rapid growth of the young-of-the-year northern pike." They had grown from 4½ to 10 inches in size. It was found, during the study, that water in the lake obtained in run-off from a 43-square-mile watershed, had no acid content.

At the conclusion of his study, Mr. Trembley made this memorable statement, "Judging from these observations, this lake is on its way to becoming an outstanding fishing lake in about two years' time." This statement holds true as anglers are taking sizable fish from Glendale Lake.



A VERY PROUD LAD, Jack Baran, an left, Pattan, Penna., displays a fine 30-in., 10-lb.-4 oz. northern pike he landed while fishing from a boat on Glendale Lake, Prince Gallitzin State Park. Young Jack fishes the lake along with his father, Paul Baran.



ROBERT ALBRIGHT, Barnesboro, Penna., at right, holds a fine 31-in., 9-lb. northern pike taken recently near the Craoked Run section of Glendale Lake, Prince Gallitzin State Park.



THE LARGE AND THE SMALL wait for the familiar "tug" on their lines as they fish Glendale Lake. The breast of the lake can be seen in the background along with the central tower at the extreme right.

BASS LOOK PROMISING

According to Thomas Qualters, Cambria County fish warden, the bass population in the lake is showing great promise as fishermen are reporting catches well over the legal size. Many of the northern pikes caught have been taken on flatfish, smelt and large, bright lures. All the areas on the lake, labeled as "hot spots," can be reached by walking to them, or by boat. Some of these spots are more accessible by boat than on foot.

Many anglers delight in taking a stringer of catfish from the lake. This species, a native, proves to be a very tasty dish. Fishermen report there is no "muddy" or "oily" taste in those caught here.

LOOK TO THE FUTURE

Within the confines of Prince Gallitzin State Park, several conservation and educational displays will be constructed in the peninsula area making up what is known as "Naturealm." Among these will be an outstanding exhibit by the Pennsylvania Fish Commission. The Commission's outdoor displays will surround the only natural stream on the peninsula area. Here trout ponds will be installed and visitors will be able to observe the habits and appearances of this cold water species. Other ponds containing several species of native Pennsylvania warm water fish will add to this exhibit.

Stream improvement devices will be installed along the waterway to demonstrate the values of the different types of dams, deflectors and obstructions in fish management. Plantings made along stream banks will show how bank erosion is controlled.

The highlight of the Fish Commission's exhibits is certain to be the Aquarium Building and its display of native fish, this to be located on the Slate Lick arm of the lake not far from the state highway bridge over the end of this finger. A small dam here, with a lock for boats, will extend the water under the bridge.

Four huge glass tanks in the Aquarium Building are designed to give the observer the impression that he is walking under water as he looks upward at the swimming fish. In smaller tanks and glass cages on the upper level of the building, such things as turtles and other reptiles, amphibians and aquatic insects can be exhibited.

A large fountain to aerate the water and a gallery where students may sit and watch the behavior of the fish and other aquatic life in the tanks are two additional features of the Aquarium Building. Also supplementing aquarium exhibits will be tour boats with special glass port holes and powerful lights for a study of aquatic life above and below the surface of Glendale Lake. Tour boats will have access to all parts of the lake.

A "Fish for Fun" pond will allow children to catch fish and learn how to fish. Instructors will teach casting, care and use of tackle, fish identification, fly tying and other techniques essential to expert angling.

ONE OF NATION'S FINEST

Young and beautiful, only seven years old, Glendale Lake, Prince Gallitzin State Park, is growing to be one of the finest in the State and the nation. Sound prejudiced? Of course! After you've visited the park nestled in the Alleghenies, you will agree.

hunting *DRAGONS* in pennsylvania

By CARSTEN AHRENS

DRAGONFLIES . . . that is. That's the commonest name applied to this amazing group of insects although locally they may have many appellations: snake-feeder or snake doctor, mosquito hawk, darning needle or devil's darning needle, even horseflies. The more slender and less active damselflies also belong to this order of insects known as Odonata. In an old fairy tale I heard long ago, the intrepid hero had a time telling the dragon from the damsel, for she was so ugly, ancient, and generally repulsive. You'll find it's easy to tell the dragonflies and damselflies apart.

The next time you're still fishing, regard your bobber or float not just as telltale evidence that a fish is interested in the bait, but as a perch for these insects. All of them have long, ten-segmented, slender abdomens and four, many-veined, multicelled wings. You can always distinguish the dragonflies from the damselflies because the latter close the wings when perching and sort of let them rest on the long abdomen. The dragonflies when at rest have the wings horizontal to the water's surface.

Both groups have species whose bodies are variously and spectacularly colored . . . actually they seem to be enamelled. Many come in blue and black, or yellow and black, greens, browns, red and black, and with wings like clear plastic or spotted, banded, or streaked with color.

Their huge appetite keep them on the wing most of the sunny hours of the frost-free year. Most of them catch in the air and at once devour their prey, smaller insects. A few carry the creatures they capture to a perch where they consume them more leisurely. They are everlastingly hungry so are most important economically; the gnats, midges, mosquitoes they destroy must run into astronomic numbers.

But the outdoor person finds their flight completely fascinating. Let the sun warm the air above a lake and soon these insects are performing the most astonishing acrobatics. They ride the winds or defy the winds, now skimming the water's surface so that they and their reflections seem one, and the next instant are streaking so speedily skyward that they become the merest specks in the blue dome overhead.

They are all sun worshippers. Let old sol disappear and the skyriders become earthbound. They hang themselves under a protective branch and cling by six, long, spiny legs until the sun returns. Occasionally, a long cold spell interrupts summer, and these minions of temperature may starve, for in the cold their body fluids congeal and movement is difficult or even impossible.

One may hunt for dragons in or out of the water. The insects begin life as leggy creatures that live in the mud

at the depths of a pond, crawling about on the bottom, or clinging to the water vegetation. This part of their life is apt to be longer than their aerial existence, and its length is determined in part by the temperature and the quantity of food available. Like the adults, the larvae or nymphs are constantly looking for food. I raised a green darner through its aquatic stages and found it would eat a tiny bullhead each day. I put two nymphs together one night and learned they were cannibalistic; in the morning only one remained.

Once they are aerial, their breathing system changes so completely that they can never again be aquatic. Their adult life is spent on wings, mating, ovipositing, eating, and (they have many enemies) avoiding being eaten. Even if they escape such a death, autumn with its frost will bring their ecstatic flights to an end. Only in their immature forms, protected in their underwater world, can they withstand the rigors of winter.

— My Quest —

During the last few months I have been studying the dragonflies of western Pennsylvania. I have laid out a route through the watersheds of the Upper Ohio River basin. These insects always live in the vicinity of water. Their eggs are laid in water or in vegetation in or near water. The larva forms spend from a few months to several years submerged before they emerge as winged forms. Each species requires a certain habitat, so that my route includes springs, rills, swamps, ponds, rivers, lakes, and bogs at this end of the state.

In my hunting I have collected and identified many specimens representing almost 100 species and I expect to find more. Some are tiny insects, less than an inch in length. Others have a wing span of approximately ten inches. At present most dragonflies lack common names, but this won't always be true. As man becomes more numerous, and the animals he presently hunts become rare or disappear completely, he will look about for something else to pursue. He will find in the dragonfly a long winged, compound-eyed animal so speedy and elusive that it will take all his skill and stamina to enclose it in his collecting net. Collecting dragons will become a sport! We must add, too, that dragonflies are most prolific; a single female will lay a hundred thousand eggs during her short adult lifetime.

When I meet a group of boys along a creek, one invariably shouts:

"Catching minnows?"

"No, snake feeders . . . you know, dragonflies."

"Do they bite? Do they sting ya?"

And I always explain that these insects have side-wise-working mouthparts, that they might pinch you a little but could not break your skin. When I say they cannot sting,

"Aw, yer kiddin . . . my grandpop says they can sting awfully . . . worsen a hornet . . ."

But the grandfather is wrong. True, the posterior of many of these insects hold clasping organs that look rather fierce, but they are only accessory aids in their reproductive activities.

— Fauna in Pennsylvania, varied and numerous —

Before I began this dragonfly study I did not know many important facts about outdoor life in our state. For instance, I didn't realize that the underside of country bridges are so frequently used as nesting sites for the graceful but peevish barn swallows. When I was a boy, on our farm these birds glued their homes to weather-stained rafters in barns. Now when your car roars across a rural bridge, its hum and rhythm may act as a sound and swing to lull young swallows to sleep.

I didn't know I would meet wherever there are dragonflies those exquisitely tailored birds, the cedar waxwings. I had regarded them as fruit-eating . . . fond of cherries and cedar berries . . . and not as insectivorous birds. But I found the waxwings in all the dragonfly habitats . . . in swamps, along streams, by mountain bogs, and they were there because of the dragonflies.

They perch on a dead limb and watch the waterweeds. When the nymph of a dragonfly crawls from the water up the stem of a reed, splits his old skin and sort of pumps himself free from the old exoskeleton; while his new, juicy, succulent, aerial skin is still tender . . . at just the right time, the waxwing leaves his perch, flies down to the waterweeds where it holds itself a bit awkwardly above the luckless transformer. Just at the moment the dragonfly is free of his old skin, he is snapped up to become an important item in the waxwing's diet.

Along with the trim cedar birds, there are the noisy kingfishers, several aloof herons, furtive marsh wrens, gossipy redwinged blackbirds, fidgety sandpipers, lonely black ducks, tell-tale killdeer, the now-you-see-them now-you-don't grebes, while from the uplands drifts the calls of bob white, chat, various vireos, and on several occasions, the ruffed grouse.

And then I didn't realize Pennsylvania's snakes, at least some of them, are so arboreal. In shrubs and trees overhanging the water one can frequently see several of the reptiles on adjoining limbs doing some collecting of their own. So assured are they of their camouflage that unless I actually strike their canopy, they show no inclination to move. Only then will they glide in their effortless way to disappear noiselessly into the water with movement that borders on the incredible.

One also meets mammals or the tracks of mammals. Deer, bear, raccoon, weasels, and opossum leave their footprints along the waterways. Lodges of muskrats abound, and even during the day an adult is often abroad, leaving an everwidening triangle as he advances

across the surface of a pond. Our state has many beavers and their dams back up considerable water. In one of our state parks, two stone throws from a lot of humanity, is a shoulder-high dam in such a jungle-like spot that no one realizes its whereabouts except perhaps the park officials and me. There are many smaller animals including moles, shrews, and mice. The western end of our state possesses many amphibians, the frogs, toads, salamanders, including the large mudpuppies and hellbenders. I was surprised to find so many big bullfrogs; I had met them on "farms" in Florida, so supposed them to be just southern.

— Our State Flora, rich in species and colors —

I hadn't realized how many garden varieties of plants had taken to the woods . . . sort of gone pioneering. For instance, my garden never produced such lush examples of phlox, golden glow, or trumpet flower, or of asparagus, sugar plums, and various enormous berries that I have enjoyed along our waterways. One often meets apple trees, undoubtedly animal-planted, that have fruit, which though unsprayed, is pleasing to see and to taste.

Collecting has caused me to renew many old flower acquaintances. It has reminded me how intense is the red of Oswego tea or bee balm, how purple the ironweed, the blue of bugloss, the waxy whiteness of water lilies, the green of liverworts, the yellow of evening primroses, the rose-purple of the swamp milkweed, the brown of cattails, and the orange of butterfly weed, locally called "pleurisy root."

It has made for me many new plant acquaintances as well. I had read about them, but had only enjoyed vicariously their beauty and fragrance. Words are wonderful, but just as a picture is said to be worth a thousand words, so an actual specimen is worth a hundred pictures. Where I grew up, I had never seen many of the orchids that grow in Pennsylvania swamps. The gentians I recognized at once, although the closest I had come to them was in the poem that read, "The gentians bluest fringes/Are curling in the sun." Other plants new to me were the velvety cardinal flower, red elderberry, turtlehead, dwarf cornel, and the trailing arbutus, the latter, my nose discovered before my eyes did.

Hunting dragons has helped me discover how beautiful our state is. My car merely crosses the big thoroughfares; it usually throbs up hills and down on rural roads, and I am often thrilled with the panorama that unrolls before me. This is especially true during mid-autumn in or around Potter County. It is true that as one drives about he encounters some horrible man-made sores, but it is comforting to know that given a chance, Nature can work miracles in healing. More often, one looks across areas where man has learned to live and farm in harmony with the slope of the land. His crops, in various colored bands, run around the hill instead of up and down the tilt. By strip cropping and contour farming, he is holding in place precious topsoil that otherwise would be silting the streams, killing aquatic life, finally to be carried to the depths of the seas where it can do nothing any good.



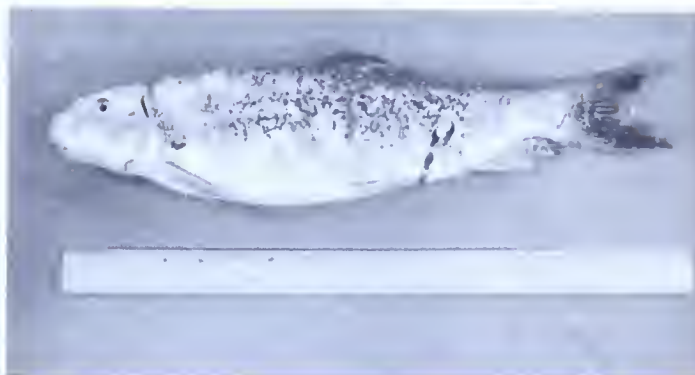
— Study Highlights need of Conservation —

Hunting dragons also points out that we have a long, long way to go in restoring our streams to their earlier status. When Americans realize that a lot of care is imperative in the process of changing "rain into tap water" as someone had said, we will be more cautious in discarding our beer cans, old tires, and other symbols of our progress. One has to climb high indeed into our mountains to find a stream that flows unimpeded by man made and man discarded junk.

Now and then I reach a stream that seems to have died. Something has seeped into it or something has been dumped into it that has killed it. Gravity still moves it downward, but its luster and life-giving spirit is gone. No fish dart through its waters, no insects make patterns on its surface. It is as dead as the mummifying fish that litter its shore and fill the air with the stench of decay.

Dragonflies still live in most streams of Pennsylvania . . . they're pretty tough organisms. But when they cease to fly, when the whirligig beetles stop gyrating, and the water striders no longer cast shadows against the sandy bottom, then our streams will be too polluted for insect life and for man.

big burp



Tremors must have shaken the placid water of Hills Creek Lake, in Tioga County, when a mighty muskellunge regurgitated this 18 inch, 2 pound, 6 ounce sucker.

The lake management crew found this dead sucker in a trapnet which contained 4 large muskellunge, ranging from 35-42 inches. It was obvious that the sucker had been regurgitated because the head had just begun to show signs of digestion and lacerations caused by needle sharp teeth were on both sides.

Regurgitation of food when fish are startled or confined is a common occurrence, but not one of these gave evidence of this impolite gesture. No sir, not even an "Excuse please."

Keen Buss

THROW-AWAY plastic boxes, in which 35mm. color slides are packed when returned from color processing laboratories, are dandy pocket size containers for trout flies. Two or three slide boxes fit nicely into a shirt pocket, permitting you to travel light along the stream.

Color processors return 35mm. color slides in several types of boxes. Some boxes have hinged lids. Others have snap-shut caps. Most are adaptable for fishing flies. Others can be renovated slightly, with model cement and thin plastic strips to form partitions or special compartments. Sticky labels, generally included with the returned slides, for designating date and location of pictures, are useful too in noting patterns of ties stored in each box. This makes for quick reference and selection of flies.

I often put two, sometimes three small slide boxes, packed with flies, into my shirt pocket for an hour or two of fishing in the evening. Big assortments of flies are seldom required for that magic twilight hour when trout dimple the surface for the evening hatch. Two dozen ties, in assorted patterns and sizes, usually take care of the need.

Next time your color slides are returned from the laboratory, and you've loaded your projector's carousel, don't dispose of that little plastic case. Fill, without crushing, with favorite flies. Or use the box to carry an assortment of small spinners or spinning size trout spoons. Label boxes properly. Then stash them in your fishing pocket.

Fishermen find many uses for these disposable slide boxes.—Don Shiner

The history and evolution

The reason that people hunt and fish when they don't need the animals for food is probably related to the history and development of the human race. Dr. Robert Butler of the Pennsylvania State University had an interesting observation as to "why" people hunt and fish. He notes that the human race is only recently out of the caves, relatively speaking, and consequently there has not been enough selection to eliminate atavism. (Defined by Webster as "recurrence in an organism or in any of its parts of a form typical of ancestors more remote than the parents, usually due to the recombination of the ancestral genes.") In order to survive and perpetuate the race, there was a natural selection, in primitive man, toward those who could best outwit fish and game. This innate ability has not been lost in many individuals of the modern human race.

If this hypothesis is correct, then the urge to be alone or in a situation of primeval environment is also not lost; neither is the gregarious urge of man as he moved from caves to villages, to towns and finally to large cities. All of these urges must still be lurking in the human gene pool. We have those anglers who prefer the wild mountain streams and we have those who like the excitement of a "Fishermen's Paradise" where the crowds gather for shoulder to shoulder fishing.

Whether these assumptions are true or not may be speculative, but the beginning of sport fishing is history. Sport fishing was a quiet form of recreation of the landed gentry of Europe, who with the aid of their "gillies" spent their leisure months quietly angling on their country estate. It was here that capture of fish was changed from a crude method of obtaining food to a pleasurable manner in which to spend one's leisure time—the change from a necessary chore to an art. To these European aristocrats go the honors of making the first refinements and adaptations on fishing rods, reels, and lines.

Into an environment filled with untold numbers of freshwater fish came the early immigrants to the United States. Too busy at first to do anything other than capture fish for food, it was the nineteenth century before a few of the aristocratic Americans began to take up the "gentle art" of angling as practiced by their European brethren. Many fishing clubs were founded by these men in the latter half of the nineteenth century. In Pennsylvania in 1871, the Blooming Grove Club was one of the best known of the hunting and fishing clubs originating from the upper strata of the social structure. The love of the outdoors and the gregarious nature of humans brought these men together for comradeship and common interest in the wilderness of the Pocono region.

By KEEN BUSS—Director

Research and Fish Management Division Pennsylvania Fish Commission

However, the upper class was soon to lose their monopolistic hold on the sport of angling. Before the automobile was common, the working class began to travel to lakes which could be reached by rail or trolley car. In eastern Pennsylvania, many of the anglers traveled by train to the Poconos or to the lakes of New Jersey. Excursion trains carried these anglers in good numbers when the crappie were "running" and when the bass season opened. This fishing pattern was probably repeated all over the state where transportation was available.

With the coming of the automobile and good roads, and industrial progress increasing leisure time, the vacation habits of all Americans changed. It was then that fishing began in earnest, and so did the demands for fish—catchable fish.

It is the catchable trout program which has created all the confusion and conflict. We have anglers who prefer never to fish for stocked trout and never keep any fish, but we also have anglers who do not care where or how they catch trout so long as they catch their limit. The latter fishermen may have little esthetic values, the former probably the most. This, of course, is where the fish culturist and fish managers are caught in the middle of a continuing argument. This argument has even filtered over to warmwater fishing programs. What are the alternatives?

Almost all of the alternatives are considered in Pennsylvania. The few remaining wilderness areas should be kept in their natural state and not stocked with catchable trout. Stocked trout bring the stampede of people who are not interested in the wilderness, but only prospects of creeling a limit of fish. Consequently, the wilderness fishermen, native stocks, and the primeval scenery suffer from the inroads of the people who are not concerned about maintaining the esthetic values of the region.

The "Fish for-Fun" areas provide fishing to the angler who prefers to catch fish, but not to eat them. These areas provide good and constant fishing for anglers in or near urban areas.

"Fly Fishing Only" areas provide fish for the purist who prefers to keep his catch. It also enables these fishermen to return fish to the water unharmed so that they can be caught again.

Wired areas are sections of streams set aside to be

of sport fishing



Eldy E. Johnston photo

stocked regularly but no fishing is allowed. Supposedly these fish move out of the wired areas into open areas and the fishermen have a sustained fishery. This eliminates following the stocking truck.

Pre-season and in-season stocking on a one shot basis furnishes immediate fish for those who are oblivious to crowds, truck followers, and the ensuing carnival atmosphere.

The ultimate in a catchable trout program is the periodic planting of relatively small numbers of fish to provide a constant return to the creel. This is a particularly effective method of providing fishing in heavily populated areas or in intensively used recreational areas. It is also a method used by fee pond operators to encourage anglers to use their facilities.

Anglers have rarely agreed what they wish from a state agency. The exception is Trout Unlimited. Their philosophy is "Trout Unlimited believes that trout fishing isn't

just fishing for trout. It's fishing for sport rather than for food where the true enjoyment of the sport lies in the challenge, the lore and the battle of wits, not necessarily the full creel. It's the feeling of satisfaction that comes from limiting your kill instead of killing your limit. It's communing with nature where the chief reward is a refreshed body and a contented soul, where a license is a permit to use—not to abuse, to enjoy—not to destroy our trout waters. It's subscribing to the proposition that what's good for trout is good for trout fishermen and that managing trout for the trout rather than for the trout fishermen is fundamental to the solution of our trout problems. It's appreciating our trout, respecting fellow anglers and giving serious thought to tomorrow."

Even though one group has stated their philosophy, the diversity of thought and ideals of other groups is bound to place a strain on any agency or division which must administer the fishing problems.



recipes for carp



FLOUR, CORNMEAL, potatoes, onions, sugar—all are ingredients for the excellent doughball baits listed in this article.

DON'T live with the erroneous conception that "carp are no good fish." These overgrown minnows from the Orient may not be as glamorous as bass, muskellunge or trout, but they offer hair-raising experiences on rod and reel. Many of the ill rumors that are spread about carp simply aren't true. There are fishermen who specialize in fishing for carp and they confirm that carp, properly cooked, are far tastier than old pine boards. These experts agree that catching a carp is like roping a wild steer, outdoing the



MIX UP A BATTER of doughball bait, then go out and have yourself some fun with carp.

best black bass. It may even "bust up" your gear far more often than the muskellunge. And if you put aside prejudice long enough to cook one, you will even say that carp are fine foodstuff, not far removed from trout, only more of it.

Carp are now widespread throughout Pennsylvania and indeed, much of North America. With these fish so numerous and fishing pressure so vastly reduced, carp anglers have more fun than a swarm of bees turned loose in a florist shop. Fishermen drag in carp of unbelievable size—5 to 40-pounds and more. Further, they rarely, if ever, hand over their catch to the neighbor's cat or bury the fish beneath a shade tree. A variety of recipes turns carp into dishes fitting the most discriminating gourmet.

The first time I socked steel into a carp—a big 20-pounder—it proved as strong or stronger fighter than anything I caught heretofore on rod and reel, including some fairly nice northern pike and muskellunge. It opened my eyes to the virtues of carp and what they actually have to offer fishermen. I never miss the chance now to tie into one of these wash-tub size minnows.

During the last decade I've gone to considerable lengths to discuss carp and carp fishing with many who angle al-

most exclusively for these and other warm water fishes. They have several things in common. One of their prime objectives of life is to spend as much time fishing for carp as their work schedule and family responsibilities permit. They use heavy tackle, and in almost every case, specialized bait formulas.

Stiff casting rods, or light salt water spin poles coupled to heavy lines and big capacity reels are needed to handle *Cyprinus carpio*. There is almost universal agreement too that it's best to let carp search for the fisherman than the other way around. Chummed baits draw carp like herds of cows heading for pasture into calm eddies. Fishermen relax until a carp moves in and picks up the baited hook resting among the chummed baits. Then real action follows. Even the experts admit that they aren't always successful in dragging in the big brutes.

I questioned these experts about their favorite doughball formulas and recipes for preparing carp for the table. They gave freely of the latter, but of the former, it was like extracting teeth without sedation. I managed, however, to compile the list that follows on these pages. It took some doing to acquire these formulas and recipes, so I suggest that you tear these pages from the ANGLER and stash them somewhere, like your safety deposit box in a bank, for future reference. Then some weekend, when time weighs heavily on your hands, mix some of these baits. Get acquainted with carp. Learn what these fish have to offer and what you've been missing out on all these years.

Recipes for Doughball Baits

Formula No. 1

Compound the following ingredients:

- 1 cup flour
- 1 cup yellow cornmeal
- ½ cup canned grated cheese
- 1 teaspoon sugar

Mix with cold water to form thick dough. Roll into small grape-size balls and drop into pan of boiling water. Add sliced onion and boil until balls float. Remove balls and cool. Bait will stay fresh for several days, but keep covered with moist cloth.

Formula No. 2

Carp Paste

- 1 cup wheat flour
- ½ cup cornmeal
- 2 good size potatoes (grated)

Mix into paste and cook in cloth bag for 45-minutes. Impale dough ball on a No. 5 or 6 size hook.

Formula No. 3

Meat ball and dough.

- ⅓ cup flour
- ⅓ cup meal
- ⅓ cup chopped meat

Mix ingredients together. Pinch off pea-sized balls, work in wisp of cotton to hold ball on hook.

Formula No. 4

Honey doughballs

- ½ cup flour
- ½ cup meal

Mix with honey to form paste. Work in cotton to hold 'pills' to hook. (Chum pills in some river eddy before fishing).

Formula No. 5

Cheese & Beef doughballs

- ½ cup flour
- ½ cup cornmeal
- 2 teaspoons of grated cheese
- 2 teaspoons of ground beef

Mix together and boil for 20-minutes. Shape into balls about the size of lima beans. Add a drop of anise to each ball after impaling bait on hook. This bait will last about a week or so without refrigeration.

Formula No. 6

Oatmeal doughballs

- 1 cup flour
- 1 cup yellow cornmeal
- ½ cup oatmeal
- ¼ cup canned grated cheese
- 1 teaspoon sugar

Mix these ingredients dry. Then add just enough water to make thick dough. Knead well, roll into small grape-size balls and drop in pot of boiling water in which an onion had first been boiled. Boil until balls float. Remove, Cool and let harden. Bait will last several days. To freshen, cover jar with damp cloth for an hour or more before using.

* * *

The above doughball formulas will tempt carp into biting. Then, having dragged one or more of these brutes ashore, here're recipes for preparing carp for the table. 'Taint true that an old pine board tastes better . . . not when you prepare carp in the following recipes:

(5) Susquehanna Carp With Egg Sauce

Temperature — Simmering for
Time — 30 minutes

- 4 pounds of carp
- 1 cup salt
- 12 medium-sized boiled potatoes
- 12 small beets, boiled
- 1 cup fried salt pork scraps
- 2 cups egg sauce
- 2 ounces butter watercress.

Remove head and tail from carp. Skin, split fish, wiping it with wet cloth. Sprinkle inside with a cup of salt. Let stand over night. In the morning, remove salt, bring fish slowly to a boil to freshen, tie fish in a cheesecloth, and simmer as directed until done.

Lay the cooked fish on a large heated platter. Surround with boiled potatoes and buttered beets and pork scraps. Serve with:

Egg Sauce

- ¼ cup butter
- 1¼ tablespoons flour
- ¼ teaspoon salt
- ¼ teaspoon pepper
- 1¼ cups boiled water
- 2 tablespoons butter (additional)
- 4 hard-boiled eggs.

Cream together ¼ cup butter, flour and seasonings. Stir the boiling water in gradually and simmer ten minutes. Just before serving, beat in the additional butter, a half teaspoon at a time. Slice the hard-boiled eggs into the mixture. Sprinkle with watercress.

(3) Baked Carp

Temperature — 375° F. for
Time — 30 to 35 minutes

- 3 pounds of carp
- 1 tablespoon butter salt and pepper

Skin fish. Remove head, tail and backbone. Lay fish in pan, skin side down and open flat. Sprinkle with salt and pepper and dot with butter. Bake as directed.

A Frogging we will go

By TED FENSTERMACHER



"If you haven't eaten frogs' legs—you just haven't eaten," is the sentiment of most who take part in frogging.

It isn't the eating alone, of course, that makes frogging popular. The sport itself is important. However, one often hears of fishermen giving away fish and hunters giving away game but whoever heard of froggers giving away frogs? They're just too good on the dinner table.

There are other ways of catching frogs but use of a hook, with a bit of red flannel as "bait," or shooting with a .22 are by far the most popular. Some athletic souls seek to catch them by hand.

Most froggers seem agreed that frogs must be able to detect colors—red in particular. Some claim they have tried other baits than red with no luck.

Frogs, say both scientists and sportsmen, will not go after any bait that is not moving. Nature has provided frogs with exceptional tongues for the purpose of catching the insects that make up their diet.

The tongue is attached to the lower jaw, near the front. When the mouth is closed the tongue lies flat and points backward down the throat. When an insect or—in our case, the bait—is to be seized the tongue unfolds with lightning-like rapidity and extends from the front of the mouth to snare the prey.

Lloyd C. Pollock, a fishing enthusiast who has had a good bit of experience in frogging, said he feels a Royal Coachman, or any other red fly, is a highly satisfactory bait. He uses a casting rod with which to dangle it in front of the frog. He also uses red flannel.

John F. Harter, another veteran fisherman, said flies are good but that he prefers a bit of red flannel or even a bit of red plastic. "It is the color, not the material that is important," said Harter.

Instead of using a casting rod, for frogs, Harter's favorite pole is an old-fashion, 14-foot-long bamboo. It is the type item that, in earlier years, was practically the standard "fishin' pole," in this country.

"That long pole makes it possible to sneak up in back of Mr. Frog, in most cases," said Harter. "Since you don't have to get as close, there is less chance of scaring him. And if you do scare him into the water before you can get the bait in position, dangling a couple of inches in front of his mouth, stick around. Frogs have short memories."

One thing is sure, if the frog happens to land in deep water, when he jumps, he will scratch-gravel to get back into shallow water or on the bank. They are deathly afraid of deep water where all manner of frog eaters, fish, turtle and other enemies present a menace.

A double-hook is often used, for frogging, by Harter. A piece of red material, flannel, plastic or what-have-you, is placed on both hooks.

The veteran-riverman believes in having the line long enough that, when the frog latches onto the hook, the pole can be raised and the frog is swung back to the fisherman. It can then be caught by hand or in a net. Harter keeps the frogs in a net bag, with drawstring top, for the trip home.

Harter has also shot a great number of frogs, usually from a boat allowed to drift toward shore. He said, "I try to hit them in the head. A bullet in the body might break the bladder and the frog will sink."

"Good shooting is important because if a frog is only wounded he will head for the muddy bottom and he's a devil to find." Harter uses a net to pick up the frogs as soon as they are shot. His best day of shooting was at Lily Lake, Luzerne County. In the great masses of lily pads, at the inlet end, he once used 16 cartridges and shot 15 bullfrogs.

Harter remembers frogging also in the days when use of light, to blind the frogs, was legal. Those days, of course, are gone now. He also recalls gigging, also illegal now.

"When lights were legal," said Harter, "there were times when we would hunt them with nothing more than a barrel stave. The frogs would sit there, looking at the light, until they were smacked and put into the bag."

After getting the frogs, Harter slits the belly, removes the insides, cuts the skin around the neck and strips it down over body and legs. Head and feet are then cut off.

His wife soaks the frogs overnight in salt water. The next day she beats up some eggs, rolls the frog, all in one piece, in the egg and then in bread or cracker crumbs. It is then fried in butter, producing a real epicurean delight.

"*Rana catesbeiana*," is the Latin name for what we call the bullfrog. Whatever the name—it is a fact that the deep-throated "chug-a-rum," of the frog, on evenings from July through August, is a call to good sport and superb eating.

make mine king size

By ALBERT G. SHIMMEL

ONE of the by-products of writing comes in the form of new lures. They are concrete evidence of the madness we kid ourselves into calling progress. The manufacturer sends them on faith hoping that we will try them and find them worthy of acceptance and approval.

They accumulate in an unused desk drawer until the incessant clacking of the typewriter and jangle of the telephone fray the nerves and hone the patience to a ragged edge. With the typewriter covered and the telephone properly gagged we open the drawer and examine these treasures one by one. They revive the imagination and propagate a nostalgia for the smell of swamp mud and the sparkle of open water. Their therapeutic value to a writer is not even suspected by the manufacturer.

Just as spring fashion-shows provide a clue as to the feminine wardrobe so the varied assortment of lures point to what will be the popular lures of the season. Anglers will buy them whether the fish like them or not.

When the ultra light tackle was introduced the lures were predominantly midgets. Another year the drawer contained an assortment of plastic creatures of all colors, shapes and sizes. They rivaled the rainbow and some were even scented so that the conglomeration of odors reminded the nose of a country grocery store. From each lot, one or two find a place in the working kit while the others are fostered out to unsuspecting amateurs.

Among the past winter's accumulation, a trend toward larger lures is noticeable. While the midget lures have an accepted place in the kit, the plastic worms and many standard lures are productive enough to earn their transportation, there are occasions when the angler was pressed to produce a lure for large fish. Fish attain great size and age by being less gullible than their associates. Yet when the portly ones feed they like their protein in sizable chunks. Thus the manufacturer's problem of finding an attractor that will cause a large and suspicious fish to fall victim of its appetite.

One of my favorite lures is the time tested pork chunk. I was introduced to it almost a half century ago. The butcher shop or the home pork barrel furnished the raw material. With a sharp jack knife we carved a shape that suited our fancy and caught fish.

Later we were offered the commercial product, cut to a precision unknown in the do-it-yourself era. To add further attraction the rinds were polka-dotted in green, blue and purple or in solid black and yellow while the fleshy portion retained its white. With this we had a two-toned job that resembled the natural order of dark back, white belly. The exactness of the die cut pieces ended the reign of the home cut bait except for a few individuals that insisted that the manufactured article was too light to cast well and too small to tempt the appetites of man-sized fish.

True, they were as small as 1¼ inches and 1/40 ounce in weight. The largest known as casting size was only ¾ ounce and 2½ inches long . . . far too small to be used with regular casting tackle. Even the spinning rod was limited

and as these pieces of meat were made to be skittered along, either at the surface or just under it, weight could not be added without destroying this most effective characteristic. Sometimes a light spoon or small spoon was added but this involved an altogether different technique that excluded the lure from its most effective habitat, the pad bed grass mats where heavier lures came in with gobs of water weeds instead of fish. The rind legs of the manufactured chunk wriggled with a realism that was unattainable in the rough-cut days.

When we tried colored chunks we became rabid enthusiasts and believing that the ultimate had been achieved we settled down to bring havoc among the finny populations.

Last year the Jumbo Size arrived. It is nearly three and a half inches long and one and one fourth inches wide. The faces are beveled so as to slide smoothly over obstacles and rise to the surface rapidly after they have been allowed to probe the depths. The colors are green, red, yellow, black, blue and purple. When we tried these big chunks we found that it created more fuss at the surface and was literally designed for big fish. For the first time we began to attract northern pike and muskys that had previously ignored the conventional sized lures. Although our opportunity to test the big ones was limited we are in the process of learning that they are more effective than conventional sizes when we seek big fish . . .

The second lure that has some intriguing possibilities will shortly appear on the market under the name Flex-spoon. It is molded of vinyl plastic in the shape of a spoon with gills, eye and scales on the lower surface. The hook is 9/0 size and so moulded into the body that the flexible plastic forms a weed guard. The most interesting feature of this lure is a pocket or molded-compartment made to carry a capsule of concentrated sardine oil. When the end of a capsule is punctured it is inserted into the spoon by squeezing the sides of the spoon. The old capsule will drop out and a new one will fit perfectly. The oil is said to attract fish in all waters but our sample is waiting a thorough test on island waters.

We understand that this lure was first developed for salmon on the west coast. We are experimenting in fresh water and have found that members of the pike family will strike repeatedly.

There is little doubt that this lure will find its place among the regulars in our kit. It has attractive action, light weight so that it can be fished slowly, works well among the weeds and other obstructions and at the same time hooks fish as well as any weedless lure we have ever used. The soft plastic feels more natural and the fish seem to hold it longer. The oil should give it the effectiveness of live bait. Perhaps the manufacturer will bring out several models in smaller hook sizes. The 9/0 is definitely not the hook for minnows. This lure is a good ace-in-the-hole for that special lunker that has resisted your best efforts . . .

Each year the Penna. Fish Commission stocks the Wissahickon Creek with trout and this brings the fishermen in droves—a great percentage are local Phila. youth. Excellent fishing in the Wissahickon Creek and nearby Schuylkill River does not end with trout, but big carp, catfish, suckers and sunnies are prevalent all year.

On weekends and during the week when schools are on vacation—boys and girls grab their varied assortment of fishing tackle and head for the Wissahickon or Schuylkill—the Wissahickon empties into the Schuylkill at one point and many children claim this is the best spot.

The youthful fishermen take the sport very seriously and are intent on what they are doing. They put their heart and soul into it—utilizing patience, skill, thought and great physical effort to catch the most or biggest fish.

A few parents accompany the children, but most allow them to be on their own, knowing they are quite safe as well as protected by Fairmount Park Guards who patrol the area.

The kids have fun, participate in a multi-million dollar sport, reap the benefits of fresh air and photographers come back with great pictures.



A TANGLED UP MESS for Richard Neely, III, on the left, of 24 E. Springfield Avenue, Philadelphia, and Scott Meade of 27 E. Springfield Avenue, Philadelphia, near the waterfall on Wissahickon Creek.



WHAT'S THE PROBLEM? Left to right are James, Thomas and William Orzech of 1415 Vernan Road, Philadelphia, along Wissahickon Creek.



A FEW KINKS for Carol Brawn, 2314 Fairmount Avenue, Philadelphia, fishing off aquarium wall above Spring Garden bridge in Schuylkill River.



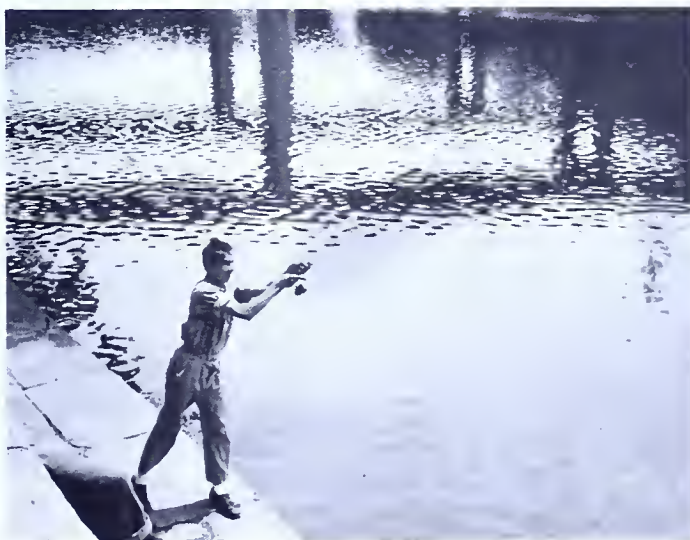
FISHERMEN'S PAIR above Midvale Avenue

another philadelphia story

By FRANKLIN WILLIAMSON



JOE NOCCHI, 3241 N. Bambarly St., Philadelphia, left, and Michael Duffy, 3216 N. 26th St., Philadelphia, on the right, lashing up to fish Wissahickon Creek above Valley Green Inn.



FOLLOW THRU! Francis Baylor of 3641 Stanton, Philadelphia, below Midvale Avenue under City Line bridge on Schuylkill River.



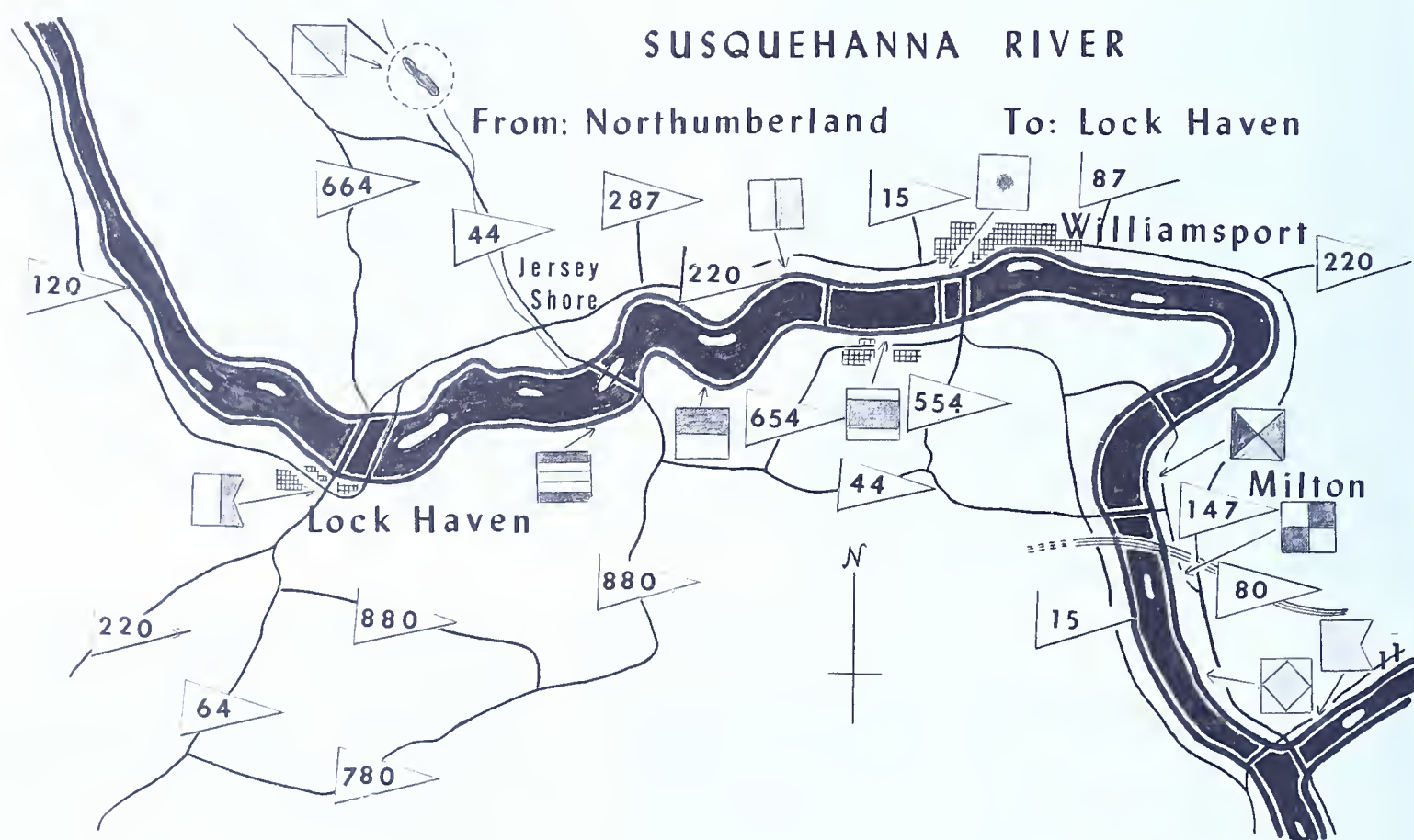
RICHARD TATE, 718 W. Ansbury, Philadelphia, carefully negotiates waterfall on Wissahickon Creek above Valley Green Inn.

Schuylkill River
City Line Bridge.

DIRECTORY OF PENNSYLVANIA MARINAS

ACCESS AREAS AND BOAT RENTAL FACILITIES

By ROBERT G. MILLER



Pleasure boating on the west branch of the Susquehanna River, from Montandon up through Lock Haven, is rather spotty to say the least.

From the confluence of the two branches, above Sunbury, the water level is generally low and suitable only for small fishing craft. This includes that stretch of water from Montandon up through Muncy.

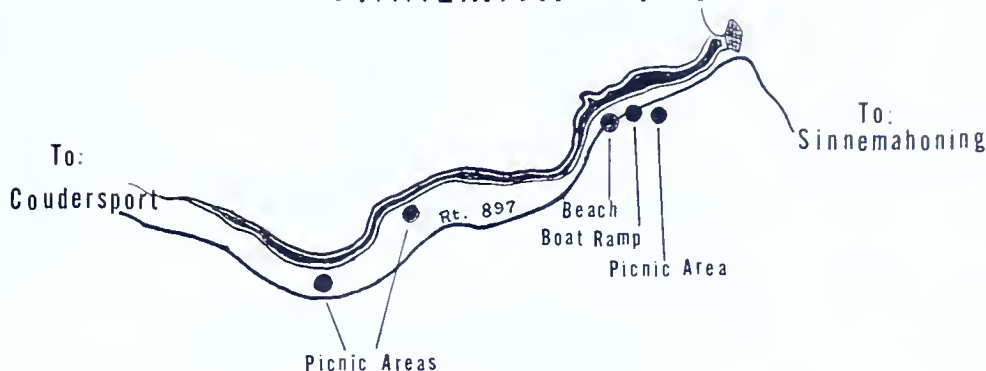
Along the east-west stretch of river there is plenty of activity at Williamsport where a PP & L dam generally backs up enough water for water sports and cruising up

to about Larry's Creek, located about three or four miles west of Williamsport.

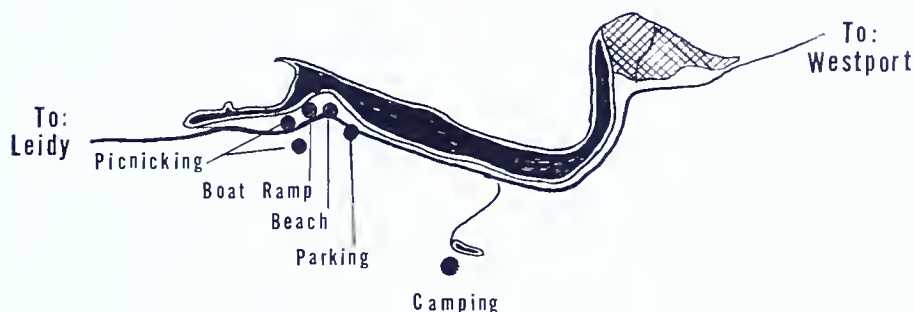
The next area containing fair to good boating waters would be in the vicinity of Jersey Shore, from about the Rt. 44 bridge west towards Avis.

There is generally plenty of weekend activity in the Lock Haven area, from the recently repaired dam on up past Lock Haven for several miles. The town of Lock Haven owns a concrete ramp, reached via Rt. 120—Water Street, which can be used for launching. It is maintained

SINNEMAHONING



KETTLE CREEK



by the Lock Haven Boat Club, which leases a nearby stretch of shoreline, which charges a nominal fee of \$1 for launching.

Although Northumberland is not on the west branch, it is included in the sketch to provide an overlapping with a previous sketch of another section of the river. Here the Northumberland Boat Club, located off Rt. 11, provides facilities for the transient boatman.



Northumberland Boat Club facilities include a hard surfaced ramp, plenty of parking space, gasoline and oil, and a caretaker on duty.



Montandon landing, located north of Montandon off Rt. 147. Beach type ramp, parking and no charge for use.



Milton Boat Club facilities, located about one mile north off Rt. 147. Access ramp and parking, plus docking for members. Nominal fee of \$1 for use of ramp.



Watsonstown—Reports indicate several areas here where small craft can be launched. One, the Watsonstown boat landing, is located at river bridge, off Rt. 405.



Maynard Street marina, ramp, gasoline and oil, docking available. On the north side of the river, just east of the Maynard street bridge.



Susquehanna State Park, Department of Forests and Waters, just west of the Arch Street bridge. Launching ramp, picnic and bathing facilities, no restrictions on size of outboard motors, gasoline and oil, sanitary facilities and drinking water.



West Branch Boat Club, at Duboistown, with access ramp, docking for members. No gasoline or oil available on the premises.



Central Pennsylvania Boat Club, reached from Antes Fort, located along Rt. 44.



Antes Fort Boat Club access ramp available off Rt. 44, on south side of river just west of the Jersey Shore bridge.



Lock Haven Boat Club, reached via Rt. 120—Water Street bridge. Lock Haven ramp maintained by the boat club with a slight fee for non-members. No gasoline or oil available on the site.



Little Pine State Park, Clinton County, off Rt. 44, about four miles north of Waterville. Facilities include parking areas, boat launching ramp, bath house, picnic and camping areas.

THE Commission's ten-year program of research and experimentation on muskellunge culture is paying off annually in more fish stocked in more water of the Commonwealth.

In 1965, 454,500 fry and 93,200 fingerlings were planted in 95 miles of streams and rivers and 30,943 acres of dams and lakes. Although fewer were stocked than in 1964, there was an increase of 7,839 in fingerlings planted because survival rate after stocking is much greater when the fish are released as fingerlings. The hatcheries held more to this stage this year.

The young muskies were introduced into six new waters in 1965, thus bringing to 35 the number of counties receiving plantings in this program.

The native home of the muskellunge in Pennsylvania is in the northwestern lakes, and it is here each spring that hatchery

men and enforcement personnel live-trap breeders and collect spawn. Eggs are incubated at two northwest hatcheries: Union City and Linesville.

The Commission's program for musky stocking now includes waters in all regions of the state. The lakes where breeders were taken are stocked annually and the remaining are distributed in other lakes and rivers which have suitable musky habitat. As a result of the stocking program, muskellunge are now found in 36 waters where they did not occur naturally.

Field reports show that in practically all waters, where muskies have been introduced, catches have been made after three years. Time alone will tell whether the muskies in their new homes will reproduce successfully and be able to go it alone." In the meantime, interest and respect for this prized game fish are growing rapidly in Pennsylvania.

PENNSYLVANIA FISH COMMISSION RECORD OF MUSKELLUNGE PLANTINGS—1965

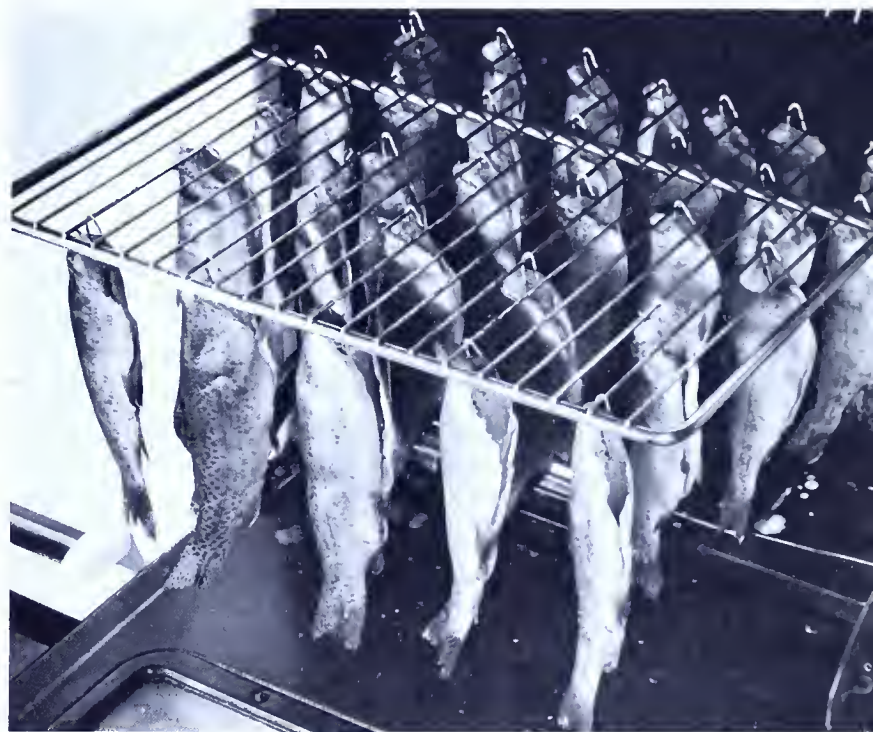
County	Water Stocked	Stockable		Fry	Fingerling	Total
		Miles	Acres			
Bedford	Gordon Lake	—	275	—	1,375	1,375
	Shawnee State Park Lake	—	451	—	2,250	2,250
Bradford	Spring Lake	—	75	—	195*	195*
	Susquehanna River, North Branch	—	—	10,000	—	10,000
Bucks	Delaware River	—	—	10,000	—	10,000
Butler	Glade Run Lake	—	60	—	300	300
Cambria	Glendale Lake	—	1,640	50,000	4,500	54,500
Centre	Bald Eagle Creek	17	—	5,000	—	5,000
Chester	Brandywine Creek	1	—	2,000	—	2,000
Clinton	Bald Eagle Creek	3	—	5,000	—	5,000
Crawford	Canadohta Lake	—	169	—	2,100	2,100
	Conneaut Lake	—	925	—	9,300	9,300
	Cussewago Creek	6	—	10,000	1,000	11,000
	French Creek	5	—	10,000	—	10,000
	Pymatuning Lake	—	13,920	35,000	11,830	46,830
	Pymatuning Sanctuary	—	2,500	25,000	5,000	30,000
	Sugar Lake	—	90	—	450	450
	Tamarack Lake	—	560	85,000	—	85,000
Cumberland	Opossum Creek Lake	—	60	—	300	300
	Susquehanna River	—	—	—	1,000	1,000
Erie	Conneaut Creek	4	—	10,000	1,000	11,000
	Eaton Reservoir	—	246	—	1,250	1,250
	Edinboro Lake	—	240	—	2,800	2,800
	Lake Erie (Presque Isle Bay)	—	—	—	1,000	1,000
	LeBoeuf Lake	—	70	—	700	700
	Union City Res.	—	25	2,500	1,750	4,250
Forest	Allegheny River	—	—	10,000	—	10,000
	Tionesta Creek Flood Control Res.	—	480	—	2,900	2,900
Greenc	Ten Mile Creek, South Fork	23	—	10,000	1,000	11,000
Huntingdon	Juniata River	12	—	10,000	—	10,000
	Raystown Dam	—	576	—	2,800	2,800
Jefferson	Sandy Lick Creek	—	—	—	600	600
Juniata	Juniata River	—	—	10,000	—	10,000
Lancaster	Conestoga Creek	—	—	10,000	—	10,000
	Pequea Creek	—	—	10,000	—	10,000
	Safe Harbor Dam	—	6,650	—	12,000	12,000
Lawrence	Neshannock Creek, Big	9	—	5,000	—	5,000
McKean	Allegheny River	—	—	10,000	—	10,000
Mercer	Shenango River	—	—	5,000	—	5,000
Mifflin	Juniata River	—	—	10,000	—	10,000
Monroe	Bradys Lake	—	200	—	8,600*	8,600*
	Delaware River	15	—	10,000	—	10,000
Montgomery	Perkiomen Creek	—	—	10,000	—	10,000
Northampton	Delaware River	—	—	10,000	—	10,000
Perry	Juniata River	—	—	10,000	—	10,000
	Susquehanna River	—	—	—	2,000	2,000
Pike	Delaware River	—	—	10,000	—	10,000
	Promised Land Lake, Lower	—	173	25,000	—	25,000
Snyder	Middle Creek Lake	—	100	—	500	500
Somerset	Cranberry Glade Lake	—	112	—	1,000*	1,000*
	Lake Somerset	—	253	—	1,250	1,250
Tioga	Hill's Creek Dam	—	137	—	675	675
Venango	Allegheny River	—	—	10,000	—	10,000
Warren	Allegheny River	—	—	10,000	—	10,000
Washington	Canonsburg Lake	—	75	—	375	375
	Dutch Fork Lake	—	91	—	450	450
	Belmont Lake	—	172	—	875	875
Wayne	Gouldsboro Lake	—	278	—	1,375	1,375
Wyoming	Susquehanna River, North Branch	—	—	10,000	—	10,000
York	Gov. Pinchot State Park Lake	—	340	—	1,700	1,700
	Susquehanna River	—	—	—	4,000	4,000
	York Haven Dam	—	—	—	3,000	3,000
TOTALS				454,500	93,200	547,700

* Tiger Muskellunge (Muskellunge x Northern Pike).

lazy man's smoked trout

By WALTER HAUSSAMEN

Easy, do-it-yourself smoked fish technique without building a big deal in the back yard



SPRINKLED WITH SALT and brushed with liquid smoke, pan-size trout are dried in oven of kitchen stove to become a gourmet's delight.

"S" SHAPED WIRE HOOKS hang fish from oven rack.

Smoke-dried fish is a delicacy relished by many an outdoorsman, but the idea of building a smoker to do the job keeps most from enjoying this rare treat. It isn't really necessary to buy or build any special equipment. You can quickly and simply turn out smoked trout that will tempt the palate of the most fastidious snacker, using the oven of your gas or electric stove.

All you need is:

- About 20 to 25 pan sized trout
- A supply of S shaped wire hooks
- Salt
- Liquid smoke

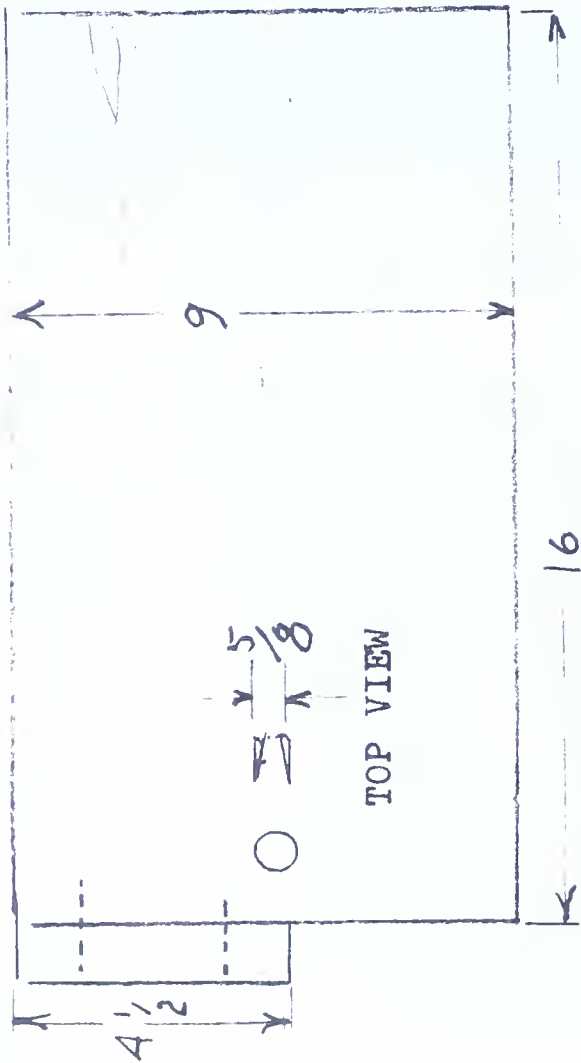
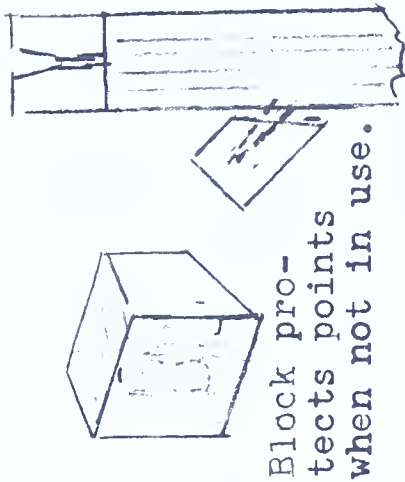
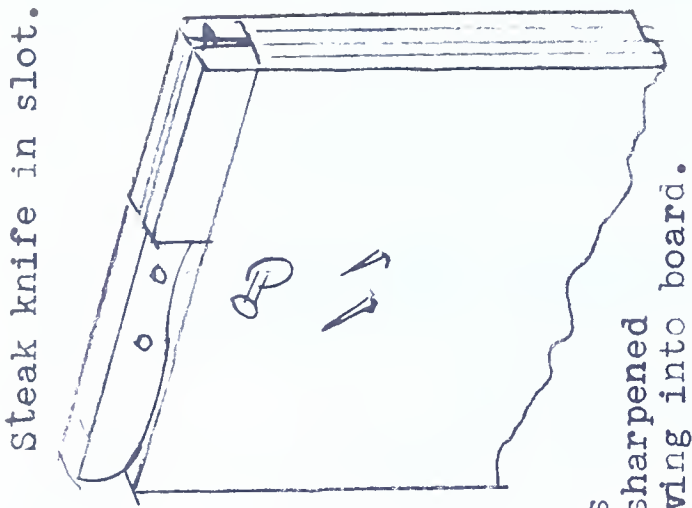
Clean the trout carefully and remove the heads. Salt thoroughly, inside and out and either sprinkle or brush generously with the liquid smoke. Put the fish in a double plastic bag or tightly covered dish and place in the refrigerator overnight to allow the salt and smoke to penetrate the fish thoroughly.

In the morning cover the bottom of the oven with foil to catch the drippings and pre-heat to 400°. Dry the excess moisture from the fish with paper toweling and run hooks through them at the spine. Set the oven rack at the highest position and hang the fish from it, allowing a little space between them. After ten or fifteen minutes reduce the temperature to 225° and allow the fish to dry for at least an hour or until they are firm and dry. This can take as long as two or three hours if the fish are good sized.

They are delicious when served warm as a meal but are more popular as a cold snack with your favorite beverage.

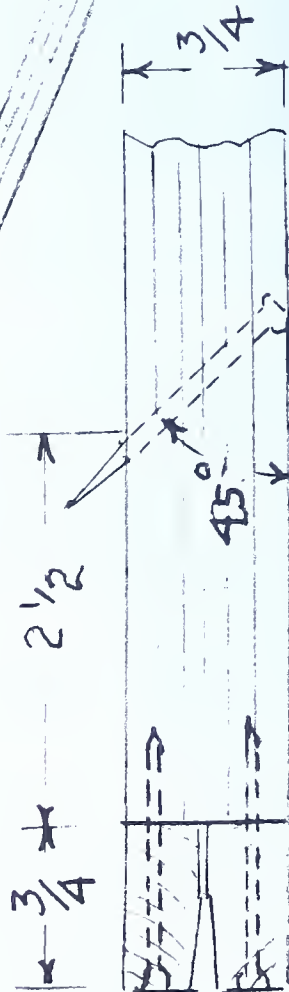
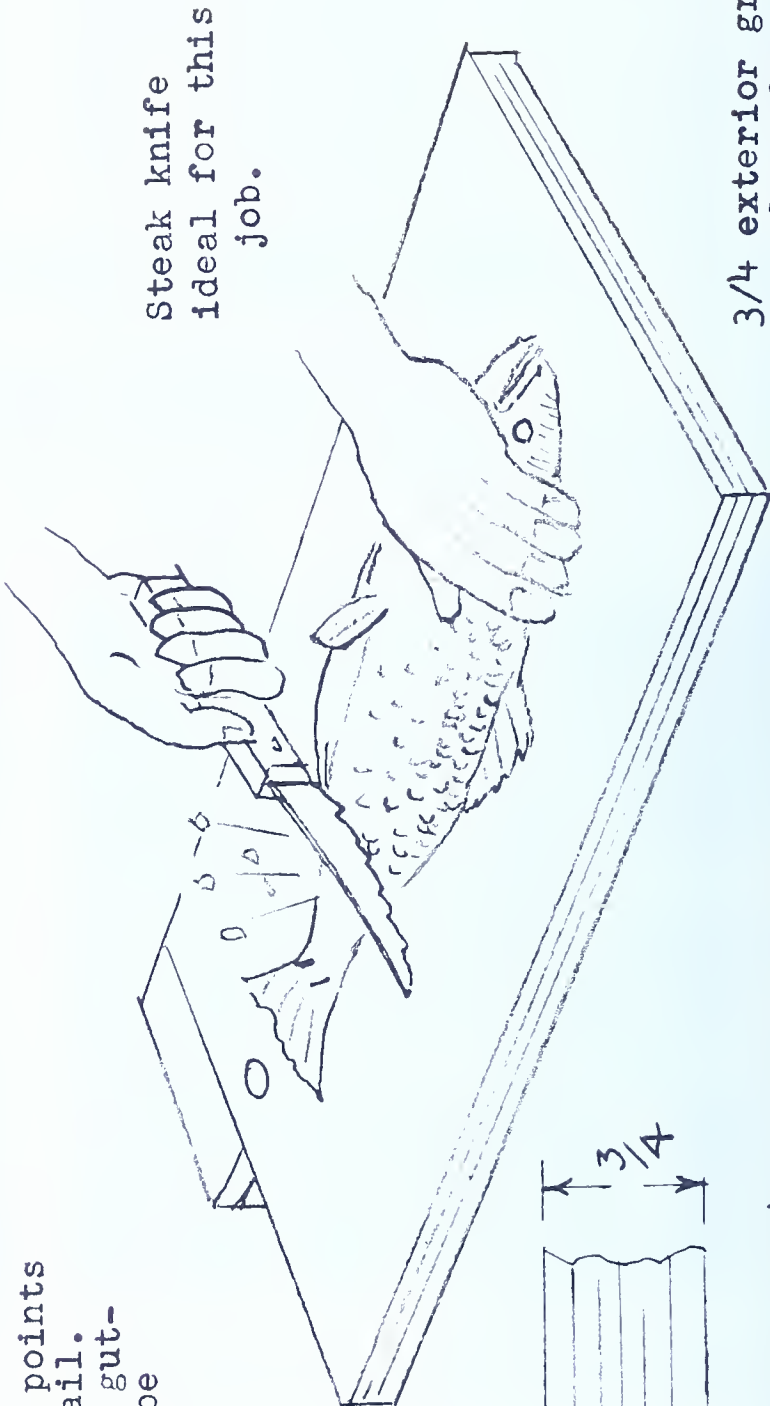
Although our personal experience has been only with trout, there is no reason why any other pan fish would not work equally well.

After smoking they can be kept in plastic bags and as with all smoked fish, should be stored in the refrigerator.—
NEW MEXICO WILDLIFE



CLEANING BOARD FOR THE ANGLER
by Hi Sibley

Fish is pressed down over points that straddle bone near tail. Board also convenient for gutting, removing head. Can be washed clean and hung up out of way.



Blade holder slightly bevelled. Drill hole for 4d finishing nail. and countersink.

3/4 exterior grade plywood.

"Lady, do you have bass bugs?"

By JIM HAYES

SEVERAL months ago a friend of mine visited the sporting goods department of a large retail store. Not finding what he was looking for, he inquired of the sales clerk, a middle-aged woman, "Lady, do you have bass bugs?"

The woman became red in the face, stammered something, and walked quickly into an office in the rear of the store. Several minutes later a severe-looking man, obviously the floor manager, emerged and approached my friend.

"What do you want?" he demanded.

"Just trying to buy some fishing lures," my friend replied.

"That gives you no right to come in here and insult our sales people," the manager said heatedly. "You better leave before I call the store detective!"

The incident prompts me to wonder out loud about a matter that has been troubling me for years. Tell me, is there a law that prohibits people who sell fishing tackle from having the slightest knowledge of fish and fishing?

One day I went into a country store where I found a display case full of reels, lines, hooks, sinkers, and other fishing items. "Where are the flies?" I asked the owner.

"Haven't been bothered lately," he answered. "Not since we put the screen doors up."

Another time, on a business trip, I stopped at the newsstand in the lobby of the hotel where I was staying. I scanned the magazine rack, then turned to the clerk. "Where's the Outdoor Life?" I asked.

"Isn't any," he said sadly. "Not since the new district attorney was elected on a reform ticket. Town's closed up tighter'n a drum."

My neighbor saw an ad in the paper that said a nearby discount store was having a big sale on fishing tackle. Since he needed a fly rod for his boy, it looked like a chance to pick up a good buy. When he arrived, a teenage girl was on duty in the fishing tackle section.

"I'd like to see some fly rods," he told her.

"You must mean either a fly swatter or a curtain rod," she corrected him. "There isn't any such thing as a fly rod."

According to the National Survey of Fishing and Hunting, fishermen spend over \$3-billion a year in pursuit of their sport, including \$33-million on tackle and equipment. What stumps me is not where they get the money, but how they manage to spend it. I can't even invest two-bits in a jar of salmon eggs without some sales clerk referring me to the delicatessen up the street.

Like the time I visited a hardware store that had an assortment of fishing tackle on display. I was looking in a showcase filled with flies and streamers when the clerk came up to me.

"Can I help you?" he asked.

"I'm looking for a Pink Lady," I explained.

"Sorry, sir," he apologized. "We're not permitted to sell alcoholic beverages. But there's a tavern across the street."



I stared at him to see if he was serious. "Yes, I see," I said, excusing myself. "I believe you're right. I do need a drink."

Another time I dropped into a sporting goods store where an attractive blonde was on duty at the fishing tackle counter. Pointing to a plug in the showcase, I said, "Jitterbug."

"Oh, golly yes!" she giggled. "Frug and watusi, too. I love all the modern dances."

There are over 25,000,000 fishermen in the United States. The entire country is swarming with them. What I would like to know is, how do they all make a living? Don't any of them sell fishing tackle?

Maybe they weed the fishermen out in the Personnel Departments. Like when you apply for a job, and the Personnel Manager looks at your application papers and sees that your hobby is fishing. Right away he assigns you to ladies' lingerie. The next applicant writes that his hobby is growing African violets, and—BANG! Sporting Goods Department.

Such an explanation would certainly account for the handsome, intelligent-looking young fellow who waited on me one afternoon in a sporting goods store. "I'd like to see some plugs," I told him.

"Plugs?" he said. "Certainly sir, I'll get some right away."

I stood there dumbfounded while he searched in a drawer under the counter. After all those years, had I at last found a sales clerk who really knew something about fishing lures? It seemed a dream come true.

After a few minutes he came up with the plugs and laid them on the counter. "Here you are sir," he said. "The finest we've got."

They were plugs, all right. Ear plugs for swimming.

One Saturday morning my wife informed me that she was driving downtown to do some shopping at a department store. I asked her to drop in the sporting goods department to pick up some dry fly oil for me. She agreed.

"I'd like some dry fly oil," she told the clerk.

"You have the wrong department, ma'am," he told her. "Insecticides are in the hardware department, fifth floor."

"No, no," she insisted. "It's something my husband uses when he goes fishing."

"Dry fly oil for fishing," the clerk repeated blankly. "Just a moment, I'll ask the manager about it."

He left and returned several minutes later with the manager.

"Dry fly oil for fishing," my wife said again, feeling like a broken record on a phonograph that wasn't plugged in.

"Oil for fish?" the manager said. "Oh yes, of course. I'm sure you'll find it in the aquarium section of the Pet Department on the ninth floor."

But that's all over now. Nowadays, when I need fishing equipment, I make it myself. I make my own rods, tie my own flies, carve my plugs, and what I can't make myself I buy direct from manufacturer's or from mail order houses. What I still can't figure out is how fishermen manage to spend so much money on lures and tackle.



There's something big out there

By JOE HIGHTOWER

This is a fish story in two parts—necessitated by the fact that the fish hasn't been caught yet. The second part will be written, I hope, when the fish is caught. Because of the variety of lures used and the apparent size of the fish, I thought it would be interesting to other fishermen. No names have been used, because this is a fish story and the identities of the fishermen involved is not important. Also, the exact location is not mentioned for an obvious reason—we would like to catch it ourselves, and we do not want to see others move in on us with heavy tackle and live bait.

Early in the bass season this year, I was fishing in the Susquehanna River, near Harrisburg, with Gene. When we came to a certain area, he told me he had been fishing there a few days earlier when something took his Fiord spoon. He set the hook, but couldn't take up any line on the fish, it just kept making large circles around the boat. He said he had him on for about ten minutes before the lure came loose. One of Gene's friends was fishing nearby, and had seen the strike and watched him play the fish. He couldn't believe it when Gene said he had lost the fish.

Later, when Gene was away on vacation, I borrowed a small boat and went out one morning. I didn't have much action, and was about to call it a morning when something took my Mepps spinner. I set the hook, and the fish took off like a jet. Unfortunately, the drag on my reel was set

too tight and the fish just kept going faster until my line snapped. I'll swear I could see that line stretch just before it snapped.

Late in August, Gene and I were out and were in the same area when Gene got a strike on a Rapala plug. He set the hook and the reel sang a bit and then, when the line went slack, Gene said he had lost a good one. I told him it might still be on and coming toward us. He lifted his rod tip, started reeling again, and, sure enough, the fish was still on. Gene kept the rod up and the fish just kept going by us, heading for the weeds about thirty yards away. His reel was still singing as the line was pulled off and the rod was bent like a horseshoe. When the fish got to the weeds it got rid of the plug somehow, and the line went limp. While Gene was playing the fish, I reacted as any good fishing partner would, such as offering unnecessary advice, making remarks about the doubtful heredity of the fish, and questioning the I.Q. of both the fish and the fisherman. However, once the fish was lost, I sat in silence while Gene let go with a few well-chosen words.

A few minutes later I hooked and landed a rock bass which was slightly over 12" in length. Neither Gene nor his dad, with 80 years of fishing experience between them, had ever seen a rock bass that big. I didn't have a chance to weigh it before cleaning, but it weighed 17½ oz. after it was cleaned. The Pa. Fish Commission Research Station at Bellefonte said it should have weighed between 22 and 24 oz., and the scales which I sent showed it to be over seven years old.

Later, Gene told me he had been fishing with Dutch in the same area several years ago when they hooked something on four different occasions which they never landed. The first time the fish kept taking line, and Gene told Dutch to tighten the drag. He increased the drag, but the fish kept taking line. By this time the fish had quite a bit of line out, so he kept increasing the drag until the line snapped. The next time Dutch hooked the fish, Gene started the motor and went after the fish. The fish would stay down deep, as usual, until the boat got too close, then it would take off again. This kept up until the line snapped. Each time Gene had it on, the line also broke before the fish could be turned. On each of the four occasions when Gene and Dutch hooked it, they were using a flatfish.

Every time we have hooked this fish, it was in the same area, so it could be the same fish. As far as I know, nobody has ever put enough pressure on it to bring it to the top where it could be seen. While I had it on I couldn't feel any action—just straight-away power! I have caught bass weighing five pounds, and have been fast to one down in Georgia which would have weighed over ten pounds. There was power in those fish, but I could also feel the action while the fish was on.

Right now we are hoping to hook it again after the frost has killed off some of the underwater weeds and grass. Then we should have a better chance of holding on to it and finally getting a look at it, even if we don't land it.

We both use spinning tackle with 6 lb. test Stren monofilament. As a matter of information, about a month ago Gene hooked a 20 lb. carp on a plug with this tackle and landed it.



Notes FROM THE STREAMS

■ While patrolling the Little Lehigh River, Special Warden Daubenspeck checked Frank Vitovitch, Sr. of Northampton, fishing in the vicinity of the Police Home Bridge. Mr. Vitovitch and his companions told him that earlier in the day while Mr. Vitovitch was fishing a salmon egg, he had a terrific strike and imagined himself tied into a granddaddy trout. After a ten minute battle, he found he had on a full grown muskrat which had attempted to eat the salmon egg. Needless to say, he made no effort to salvage the hook from between those sharp teeth.—**District Warden STANLEY PAULAKOVICH** (Lehigh-Northampton).

■ The fishermen of Cumberland County are not all convinced that we have a put and take system of trout fishing in Cumberland County. During the month of May five trout were taken from the waters of the county which qualified for a Pennsylvania Angler citation award. The fishermen feel these trout were hold-overs from the past several years. I have also had many fishermen tell me they have had big trout located, but are having a hard time catching them. By the end of the season, I am sure many more citation trout will be taken.—**District Warden PERRY D. HEATH** (Cumberland-Perry).

■ While on patrol one afternoon, I came upon three young lads ten to twelve years of age, who had built a boat. They used three 2 x 4's about four feet long to which they had fastened a wood box for the top and then they had ten two gallon cans fastened to the under side of the 2 x 4's to keep the boat afloat. I asked how it worked and they explained they would have to take it home again and put about five or six more cans to it as it was fine until more than one got aboard, then it started to sink.—**District Warden CLOYD W. HOLLEN** (Blair).

■ One of the prizes offered by the Brookville Lion's Club during their recent Kiddies Fishing Contest was five pounds of hot dogs for the first water dog (mud puppy or hellbender) registered. As luck would have it, no one caught a water dog, but a three-year-old lad from Punxsutawney won the hot dogs anyway. The youngster foul hooked a dog (the four legged bow-wow type) when he made a back cast. Before he could successfully "land" the dog, several adults came to the canine's rescue. About the only thing hurt was the dog's feelings.—**District Warden JAMES DONAHUE** (Jefferson).

■ Many problems arise when people launch their boats at Valley Forge Park. Recently a man drove his 1965 Cadillac into the Betzwood Launch area with a brand new 14 ft. runabout in tow. Getting the boat into the Schuylkill River was no problem, except for the fact that the trailer

and the Cadillac were also launched. All that could be seen of the car was the antenna. Needless to say there is one new, 14 ft. runabout and one slightly used captain's hat for sale!—**District Warden FRANCIS ROTCHFORD** (Montgomery and Philadelphia).

■ It seems we have a doubting Thomas (I should say a doubting Weaver) here in Lancaster County. Shortly after the Fish Commission started shipping by the pound instead of the number system, a Mr. Roy Weaver came to me, stating that he caught a 15-inch rainbow trout and in this trout's stomach was one-half pound of stones. Mr. Weaver said he guessed we must feed them stones at the hatchery so they would weigh more for shipment. I assured him this was not the case, but it was very unusual for that many stones to be in one trout's stomach.—**District Warden SAMUEL W. HALL** (Lancaster and Lebanon).

■ Telephone calls are an important part of a fish warden's job. One gentleman called and wanted to know about gigging suckers. I explained the practice wasn't legal in streams stocked with trout. After talking with him a while longer, he said that it was the first time he knew you were allowed to catch suckers by gigging them with a "treble hook". I soon realized he was using the wrong word. He was saying "gigging" and meant "snagging". This could have led him into trouble, even though he would have been thinking he was doing the right thing.—**District Warden CLOYD W. HOLLEN** (Blair).

■ While patrolling Chest Creek late one evening, I stopped to talk to Coleman Anna of Ebensburg. He was using a large bi-visible and as the fly drifted downstream something hit. The line was retrieved only to find a five-inch bat well hooked, but very unhappy.—**District Warden THOMAS F. QUALTERS** (Cambria).

■ I was checking fishermen on the Allegheny River, accompanied by Deputy Game Protector Jack Benning, when we received information that a lot of fishing was being done without license on the Point at Pittsburgh. We proceeded downriver and arrived above the Point. There were approximately 150 persons fishing at that time. I checked one fisherman and at that time a young lad sped off on a bicycle doing Paul Revere no injustice as he headed toward the Point. By the time I arrived at the Point, there were less than half of the original fishermen. Could be the young lad's words sounded something like this, "To the cars, to the cars, the fish wardens are coming." I might add there were a few who didn't get the word.—**District Warden PAUL R. SOWERS** (Allegheny and Beaver).

■ While stocking trout this season, I was surprised to see the large number of New York State fishermen who turned out to assist with the stocking. They are a hard working group of sportsmen and I certainly appreciated their assistance.—**District Warden KENNETH COREY** (Warren).

■ When I awoke on the morning of May 9, 1966, I found about four inches of snow on the ground. I met the fish truck at noon and stocked Twin Lakes and Wilson Run. We had a very good turnout of fishermen who took the weather in good humor. As the day grew older it became very cold and the thermometer hovered near freezing all day. Very unusual weather for the month of May.—**District Warden BERNARD AMBROSE** (Elk).

■ Tamarack Lake in Crawford County, a newly constructed 550-acre impoundment, received its first stocking by the Pennsylvania Fish Commission in 1964. The species stocked were largemouth bass, walleye, muskellunge and black crappie. Tens of thousands of bass, walleye and musky fry were stocked and many sportsmen predicted this would build an outstanding population of these fish. Now after two years, this is certainly the case. However, when only 300 adult black crappies were stocked in this large impoundment, it was felt many years would pass before they provided a good fishery. However, these 300 fish have shown outstanding reproduction and this spring thousands were taken home by fishermen. This gives one a good idea of the production capabilities of panfish placed in waters where there is no predation.—**District Warden THOMAS L. CLARK** (Crawford).

■ I have recently completed giving the Pennsylvania Fish Commission's Basic Fundamental Fishing Course to the entire Centre County Junior High School system, making it the first in the State to introduce this type of instruction in school. By necessity, the course was somewhat abbreviated, but judging by the enthusiasm and intelligent questions asked, it was an extreme pleasure to devote extra effort to this program. It is gratifying to know that one has contributed to a possible full lifetime of a pleasurable and interesting type of recreation such as fishing can be. I am sure that many of these students that received this instruction will also participate in basketball, baseball or football, but how many of them will be still playing these sports when they are beyond the high school or college years?—**District Warden PAUL ANTOLOSKY** (Centre).

■ Representatives of the Pennsylvania Fish Commission joined with the Pennsylvania Department of Forests and Waters and the Mifflin and Juniata Soil and Water Conservation Districts in presenting a conservation program at the Camporee of the Juniata Valley Council, Boy Scouts of America, held at Siglerville. Fish Commission officers used a mounted fish display for fish identification and lectured to approximately 425 scouts and leaders. The reception we received and the tone of the questions from the group clearly indicated that interest in fish and fishing continues to grow.—**District Warden RICHARD OWENS** (Mifflin-Juniata).

■ While stocking trout in Wills Creek, I met Mr. Barclay of Hyndman and his dog, Sparky. Someone said, "Tell the



G. MAX NOLL

RETIRED WARDEN DIES

G. Max Noll passed away June 21, 1966, at Montrose, Pa.

Max started working for the Pennsylvania Fish Commission on March 12, 1941, and retired July 13, 1962. His service as a fish warden was in Susquehanna County.

Max was 66 years old. He was a modest man who made friends easily. His fellow workers admired his even temperament and the good judgment he always displayed.

Our sympathy is extended to his family.

* * *

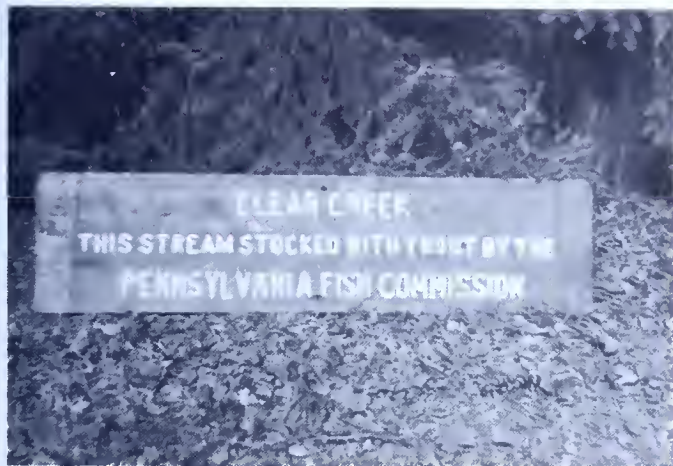
warden about your dog's fishing." Barclay said whenever he goes fishing, his dog goes along. He mostly goes to Koon and Gordon Lakes to fish for bluegills. When he sets his rods, he just says, "Sparky, watch the rods". Just as soon as one moves, Sparky barks, letting him know he has a bite. If the fish is hooked, Sparky grabs the fish, and will also go in the water and bring the fish out. He wanted to know if the dog needed a license. One day while fishing in Wills Creek, he had Sparky along and told him to go catch himself a fish. Sparky left and within about ten minutes returned with a ten inch brook trout in his mouth, still alive. No other fisherman was around, so on this trip, Sparky evidently caught his own fish.—**District Warden WILLIAM McILNAY** (Bedford and Fulton).



COOPERATION . . . PLUS

By JIM DONAHUE

District Warden, Jefferson County



THIS SIGN will greet visitors to Clear Creek State Park when in place along State Route 949.

"Where can I catch some trout?" "What kind of fish are in the river?" "Is this a stocked stream?" These are only a few of the thousands of questions asked by tourists visiting Clear Creek State Park. Wayne Minich, Jr., park foreman, is constantly searching for ways and means of informing the touring public of park facilities.

Wayne claims that these three questions are the most frequently asked. Wayne contacted me last fall and expressed an idea he had to better advertise park facilities, including the available fisheries. Together we drew plans for the proposed signs. During the winter months Foreman Minich set his maintenance crews to work with a routing machine, the results of which are shown here.

Believed to be the first of their kind in Pennsylvania, the new signs serve to enhance the recreational facilities of the park, inform the public of the available species of fish, and indicate the waters being managed by the Pennsylvania Fish Commission.

This is another example of close cooperation between two State departments, the Department of Forests and Waters and the Pennsylvania Fish Commission.



NICE TROUT from Virgin Run Lake caught by George Sekeres, Uniontown. Mr. Sekeres also reports crappie fishing is tops there.



SOUTHWEST DIVISION, Pennsylvania Federation of Sportsman's Clubs, meet at Butler County farm of Game Commission member, James Thompson. Fish Commission personnel, including John Buck, regional supervisor were present. John Laudadio took photo.



KIDS FISHING DERBY at Bradys Run Park being firmed up by Beaver County committee: front row, seated left to right: Ernest Mayhue, Rochester, Vice-Pres., County League; Jae Craig, Brighton Township, Pres., County Conservation League; Vince Castrucci, Patterson Township, Big Beaver Sportsman's Club; Second row, standing, left to right: Matt Kostelic, Aliquippa, Local 1211 Conservation Hunting and Fish Club; Ed Bowser, New Brighton, Marion Hill Sportsman's Club; Pat Carroll, Rochester, Beaver Valley Archery Club.



FISH COMMISSION DEMONSTRATION at Shawnee District Spring Boy Scout Jamboree. Lee Shortess, assistant regional supervisor, Pennsylvania Fish Commission, instructs scouts in fishery arts.—Juniata Photo Service photo

New Access Area Opened at Falmouth



HAROLD CORBIN, regional warden supervisor of the Fish Commission, is MC at Falmouth dedication, as officials and audience listen.



FORMER OWNERS of the Falmouth area, Mr. and Mrs. Walter Hess, Bainbridge greet Robert J. Bielo, executive director, at right, and second from right—Glenn Spencer, director of Real Estate Division, Pennsylvania Fish Commission. Mr. Spencer originally negotiated with Hess for the acquisition of the land.

ONE OF STATE'S BEST MUSKELLUNGE FISHING AREAS DEDICATED

ANOTHER new fishing and boating access area was opened for public use when the Falmouth area along the Susquehanna River in Lancaster County was officially dedicated on June 22. The property is located about a mile below the York Haven Dam along Route 441 at the south end of the village of Falmouth.

Situated in one of the best musky fishing areas in the East, the property, consisting of 67.71 acres, was acquired and financed by Project 70 funds in 1965 at a cost of \$15,000. The area was developed by the Commission's engineering staff. Facilities include parking, docking and sanitary.

Harold Corbin, regional warden supervisor, served as master of ceremonies for the event with John W. Grenoble, a member of the Fish Commission, as the principal speaker.

Robert J. Bielo, executive director, Pennsylvania Fish Commission, spoke to the assembled audience on the history of the area and its potentials as a top recreational area of the state.

Brief remarks were also made by: Robert Fasnacht, member of the Pennsylvania Game Commission; Clayton Shenk and Jay Haldeman of the Lancaster County Federation of Sportsmen's Clubs; Charles Snowden, Elizabethtown Chamber of Commerce and assistant director of tourism, Department of Commerce, and Titus Rutt, Mount Joy Authority; Larry McSparren, Elizabethtown Jaycees; and Lawrence Siders of the Lancaster County Planning Commission.

A musky fishing demonstration, as a part of "Let's Go Fishing in Pennsylvania Week" was given by district warden James Valentine throughout the day of the ceremonies. A Pennsylvania Fish Commission water safety patrol boat and equipment was on display.

Children's Fishing Derby at Mountain Lake



A SECTION OF THE SHORELINE at Mountain Lake as young anglers jockeyed for strategic positions.

MOUNTAIN LAKE in Scranton is stacked prior to the annual Children's Fishing Derby sponsored by the Lackawanna County Federation of Sportsmen's Clubs in co-operation with The Scranton Times and its Radio Station WEJL. Gene Coleman, Times outdoors editor and general chairman of the derby, and District Fish Warden Charles Herbster are shown kneeling. Walter Lazusky, assistant regional warden supervisor for the Northeast Division, is seen standing at left.



ALBERT STRUCK, Dupont, Pa. Age 12 years, boy catching first fish. On the left is one of the judges for the derby, Judge Jahn J. Siratnak, Barney Singer, also one of the judges, and on the right with the sweater is another judge for the derby, Rep. John Wansacz.

WARREN W. SINGER, assistant to the executive director of the Fish Commission (center) and one of the judges in the 1966 Children's Fishing Derby, checks out the vital statistics on one catch as the lucky tot at right checks intently to be sure he's right. In left foreground is Lackawanna County Orphan's Court Judge Jahn J. Siratnak, another of the judges. Frank Galanis (in police uniform) the federation treasurer, lends a hand.

JULIAN O'HOP, Avaca, Pa. 5 years old, caught first fish (won a prize) and was girl catching first fish (another prize). Her father is on the left and Gene Coleman (who presented her with the prizes, charcoal grill and tackle box) is on the right.



DIRECTORY OF BLUE BOOK AGENTS

Additional places for subscribing to the **PENNSYLVANIA ANGLER** and where the latest and newest Pennsylvania Fish Commission **FISHING REPORTS** and **INSTANT INFORMATION** are available.

- Allegheny County**—Glenn's Sports and Hobby Shop, 4129 Brownsville Road, Pittsburgh, Penna.
Berks County—Kagen's Inc., Reading, Penna.
Bucks County—Andrew Maroney—Andy's Sport & Hobby Shop, Yardley, Penna.
Combrio County—Shoff Sporting Goods, Ebensburg, Penna.
Chester County—Daniel W. Bullock, Berwyn, Penna.
Franklin County—P. Paul Overcash, Chambersburg, Penna.
Jefferson County—Deman's Sporting Goods, Brookville, Penna.
Lockowonno County—Eynon Drug, Eynon, Penna.
Lackawanno County—Edward Rebar, Throop, Penna.
Lebonon County—Joseph Waybright, Box 121-A, Annville, Pa.
Lehigh County—Gerald T. Chapleski, Allentown, Penna.
Lehigh County—Paul Daubanspeck, Allentown, Penna.
Lehigh County—Pete Nestor, Nestor's Sporting Goods, Inc., Allentown, Penna.
Montgomery County—Sidney Conrad, 13 Woodland Drive, Lansdale, Pa.
Northampton County—Charles Schwartz, Bethlehem, Penna.
Schuylkill County—Joseph Kopena, Mary-D, Penna.
Schuylkill County—James M. Hill, New Philadelphia, Pa.
Susquehanna County—Halls Sporting Center, New Milford, Penna.
Worren County—F. J. Erich Sporting Goods Store, Irvine, Penna.
York County—Harry Haines, Lincoln Highway Garage, York, Penna.
York County—Squab's Outdoor Shop, York, Penna.

FREE COLOR CHART COMMON FISHES OF PENNSYLVANIA WITH ALL NEW AND RENEWAL SUBSCRIPTIONS TO *Pennsylvania Angler*

Enclosed is \$..... for my (New) (Renewal)
(Gift Subscription)

1 year (12 issues) \$2.00

3 years (36 issues) \$5.00

Please send to:

Name

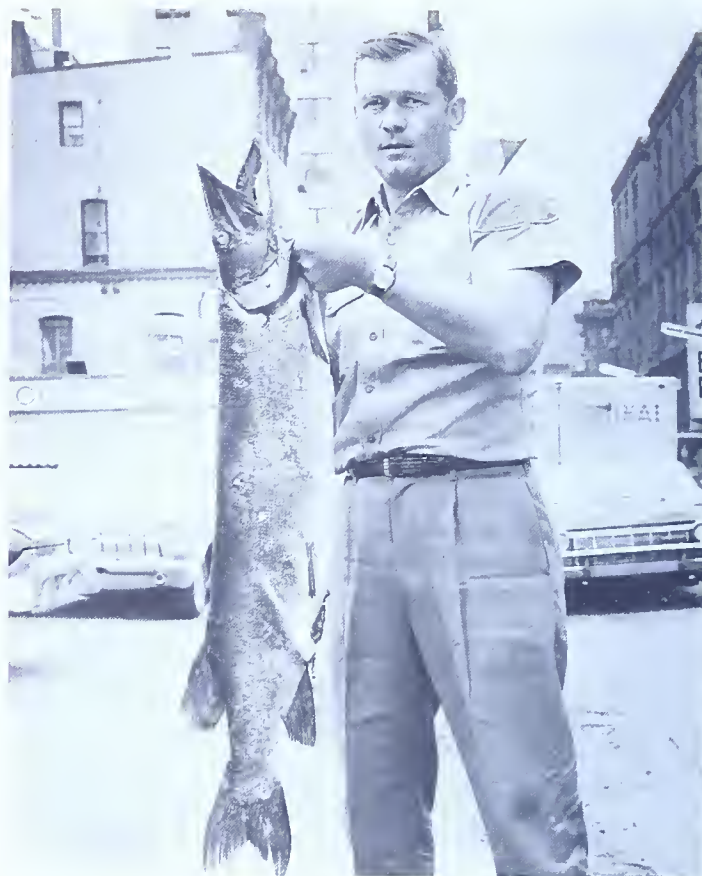
Address

Town Zip Code

Make check or money order payable to the Pennsylvania Fish Commission

Mail to—PENNSYLVANIA FISH COMMISSION
HARRISBURG, PA.

Cash sent at your own risk. STAMPS NOT ACCEPTABLE.



BIG MUSKY from Gouldsboro Lake, Monroe County. It was 42 inches long, weighed 21 pounds dressed. It was found along the shore by Jerry Emick and Gory Gruebman both of Scranton. Walter Luzusky, assistant regional supervisor, Pennsylvania Fish Commission said the fish, a female, was egg-bound. Photo is believed to be first of musky taken out of Gouldsboro Lake.

40 MILLION BOATMEN

An estimated 40 million people will take to the water this year, reports the Evinrude News Service. A large share of this total will be enjoying summer fun aboard an outboard power craft. Industry statistics show more than four and one half million outboard boats were in use in 1965.





The above diagram of Glendale Lake, Prince Gallitzin State Park, located in Northern Cambria County, Penna., depicts the several "hot spots" on the lake where northern pike, bass, crappie, and catfish have been "hitting." The large body of water is located Northeast of Patton, between Routes 36 and 53.

"He's

More

Interested



IN A

PENNSYLVANIA ANGLER

Fishing Citation

MINIMUM CITATION SIZES:

Species of Fish	Minimum Length in Inches	Species of Fish	Minimum Length in Inches	Species of Fish	Minimum Length in Inches
American Shad	25 in.	Catfish	30 in.	Northern Pike	36 in.
Bluegill	11 in.	Crappies (includes black and white)	15 in.	Rainbow Trout	27 in.
Brook Trout	17 in.	Eel	40 in.	Rock Bass	11 in.
Brown Trout	28 in.	Fallfish	18 in.	Sheepshead	25 in.
Bullhead	15 in.	Lake Trout	30 in.	Smallmouth Bass	20 in.
Carp	36 in.	Largemouth Bass	23 in.	Walleye	30 in.
Chain Pickerel	25 in.	Muskellunge	45 in.	Yellow Perch	14 in.

RULES:

Fish must be caught in Pennsylvania public waters by legal methods during seasons open for the taking of the species involved.

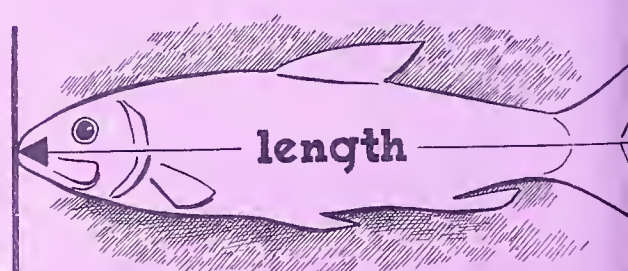
Fish must be measured, weighed and recorded by fishing license issuing agent or tackle store within the state by the owner, manager, or an authorized agent of the respective establishment.

Photographs are desirable as further proof of catch but are not required.

Non-residents as well as residents are eligible for citations if fish are caught under the above conditions.

Only fishing citation applications received within 90 days from date of catch will be honored.

HOW TO MEASURE:



APPLICATION FOR PENNSYLVANIA ANGLER FISHING CITATION

The Editor—Pennsylvania Angler Date.....
Pennsylvania Fish Commission, Harrisburg, Pa.

Please send me the Pennsylvania Angler Magazine's Fishing Citation with the inscribed data listed below:

Name (please print)

Address City..... State.....

Species Length Weight

Type of Tackle

Bait or Lure Used

Where Caught.....in.....County

Date Caught Catch Witnessed by

Measured and Weighed by

At

8.31

Pennsylvania Angler

SEPTEMBER 1966

PENNSYLVANIA STATE LIBRARY
DOCUMENTS SECTION



PENNSYLVANIA FISH COMMISSION DIRECTORY

EXECUTIVE OFFICE

ROBERT J. BIELO
Executive Director

GORDON TREMBLEY
Assistant Executive Director

EDWARD R. THARP
Assistant Executive Director
Watercraft Safety

WARREN W. SINGER
Assistant to Executive Director

PAUL F. O'BRIEN
Administrative Officer

JOHN M. SMITH
Comptroller



DIVISION DIRECTORS

KEEN BUSS
Research and Fish Management
R. D. 1—Box 200-C
Bellefonte, Pa.—16823

HOWARD L. FOX
Propagation and Distribution
Bellefonte, Pa., R. D. 3—16823

GLEN SPENCER
Real Estate
Harrisburg

EDWARD MILLER
Engineering
Bellefonte, Pa., R. D. 3—16823

WILLIAM W. BRITTON
Law Enforcement
Harrisburg

ARTHUR BRADFORD
Pathology
Bellefonte, Pa., R. D. 1—Box 200-C
16823

GEORGE FORREST
Public Relations
Editor
Harrisburg

TOM EGGLEER
Staff Writer-Photographer



REGION ONE

S. CARLYLE SHELDON Warden Supervisor
Tionesta 16353 Phone: 814-755-8811

REGION TWO

JOHN I. BUCK Warden Supervisor
R. D. 2, Somerset, Pa. Phone: 814-445-4913

REGION THREE

CLAIR FLEEGER Warden Supervisor
351 Terrace St., Honesdale, Pa.,
Phone: 717-253-3724

REGION FOUR

HAROLD CORBIN Warden Supervisor
R. D. 2, Annville, Pa.,
Phone: 717-273-2601, Ex. 86
I. G. M. R. 17003

Pennsylvania Angler

Published Monthly by the
PENNSYLVANIA FISH COMMISSION
COMMONWEALTH OF PENNSYLVANIA

William W. Scranton, Governor



PENNSYLVANIA FISH COMMISSION

GERARD J. ADAMS, President Hawley
WALLACE C. DEAN, Vice President Meadville

JOSEPH M. CRITCHFIELD Confluence

JOHN W. GRENOBLE Carlisle

HOWARD R. HEINY Williamsport

RAYMOND M. WILLIAMS East Bangor

DOUGLAS MCWILLIAMS Bear Gap

ROBERT M. RANKIN Galeton

R. STANLEY SMITH Waynesburg



SEPTEMBER, 1966

VOL. 35, NO. 9

Contents

- 1 THE SUSQUEHANNA RIVER BASIN COMPACT—Peter Coleman
- 4 WATER, THE ESSENCE OF LIFE—W. W. Britton
- 5 COMMON DRAGONFLIES OF PENNSYLVANIA—Carsten Ahrens
- 8 WOMEN ON THE WATER—Helen Highwater
- 10 FACE-SAVER FISH—Joe Fiske
- 12 SOFT PLUGS FOR HARD HEADED BASS—Don Shiner
- 14 JUNIOR CONSERVATION TOUR OF BENNER SPRINGS—Tom Eggler
- 16 DIRECTORY OF PENNSYLVANIA MARINAS, ACCESS AREAS AND
BOAT RENTAL FACILITIES—Robert G. Miller
- 18 SKIING HOT HANDLES
- 19 MODERN CAMPING—Del and Lois Kerr
- 20 FLOAT FISHING THE ALLEGHENY RIVER—Edwin L. Atts
- 20 NEEDED—WIDER MARGINS OF APPROVAL—George Dodson
- 21 SIZE IS RELATIVE—Jim Hayes
- 22 CHEMICAL WEED CONTROL—Tom Eggler
- 23 NOTES FROM THE STREAMS
- 26 1966 PENNSYLVANIA ANGLER CITATION AWARDS
- 29 SCHOOL'S OUT—Ned Smith

Cover art by Chuck Ripper

POSTMASTER: All 3579 forms to be returned to Dunlap Printing Co., Inc., Cherry and Juniper Sts., Philadelphia, Pa. 19107.

The PENNSYLVANIA ANGLER is published monthly by the Pennsylvania Fish Commission, South Office Building, Harrisburg, Pa. Subscription: One year—\$2.00; three years—\$5.00; 25 cents per single copy. Send check or money order payable to Pennsylvania Fish Commission. DO NOT SEND STAMPS. Individuals sending cash do so at their own risk. Change of address should reach us promptly. Furnish both old and new addresses. Second Class Postage paid at Harrisburg, Pa. Neither Publisher nor Editor will assume responsibility for unsolicited manuscripts or illustrations while in their possession or in transit. Permission to reprint will be given provided we receive marked copies and credit is given material or illustrations. Communications pertaining to manuscripts, material or illustrations should be addressed to the Pennsylvania Fish Commission, Harrisburg, Pa. NOTICE: Subscriptions received and processed the 10th of each month will begin with the second month following.

THE SUSQUEHANNA RIVER BASIN COMPACT

By PETER COLEMAN

Technical Assistant

INTERSTATE ADVISORY COMMITTEE ON THE SUSQUEHANNA RIVER BASIN



THE SUSQUEHANNA—River of many moods.

DRAW a deep breath, you outdoorsmen, and take a sharp and alert look at what has been put together to help get the Susquehanna River Basin—all 27,500 square miles of it—under a conservation and development plan (and program) that places a high priority on water-based recreation.

The program we speak of is contained in the proposed Susquehanna River Basin Compact announced in June, 1966, by the Interstate Advisory Committee on the Susquehanna River Basin.

The document would join the states of New York, Pennsylvania, and Maryland and the Federal Government as equal partners in a Susquehanna River Basin Commission. This body would have two primary functions: (1) to draw and keep current a comprehensive plan for the conservation, utilization, development, management and use of the water and related land resources of the vast watershed, and (2) to see to it that an ensuing action program based on the plan is carried out.

The compact must be approved by the legislatures of the three signatory states and by the Congress before it becomes law, however. Current plans are for the proposal to be placed before the lawmakers in 1967.

Sections for the Outdoorsman

The compact consists of a preamble stating that the multiple-purpose comprehensive plan will bring the greatest benefits and produce the most efficient service in the public interest, and 15 articles with numerous sections and subsections, three of which are of primary interest to the outdoorsman.

In official language, these three sections say that it will be the purpose of the commission to "preserve and utilize the functions, powers and duties of the existing offices and agencies of government," but that the commission shall be empowered to "acquire, sponsor or operate projects and facilities for the maintenance and improvement of fish and wildlife habitat related to the water resources

THE PROGRAM PLACES A HIGH PRIORITY ON WATER-BASED RECREATION



Skiing



Sailing



Swimming



Skin Diving

of the basin." However, the commission may not become involved in the latter until it first deems the facility absolutely necessary, and then finds and determines that no other suitable agency of government desires, or is able, to "acquire, sponsor or construct" such a project. The compact also directs the commission to cooperate with the appropriate public and private agencies in the planning and carrying out of a coordinated program of recreational facilities.

Broken down, these sections mean simply that the outdoor-oriented agencies of the three states and the federal government will continue to function as they do today except that they will have more help. They will have another arm—the Susquehanna River Basin Commission—to aid them in studies, in research and in launching projects.

But don't stop reading. There is more.

The above paragraphs, however attractive, make up only a small part of the compact. When taken as a whole, the proposal should be even more of a delight to the sportsman.

Flood, Drought and Pollution

The compact could be described as another weapon to be used in the battle against the natural and social maladies of flood, drought and pollution. It directs the Susquehanna River Basin Commission to work toward flood damage reduction, adequate water supplies for municipalities, industry and agriculture, and water quality improvement, as well as to strive for the development of recreational facilities, the preservation of historic and scenic values (natural beauty), soil conservation and watershed and forested land management.

Put all these objectives together and they add up to a better recreational environment for the entire basin and its more than three million residents.

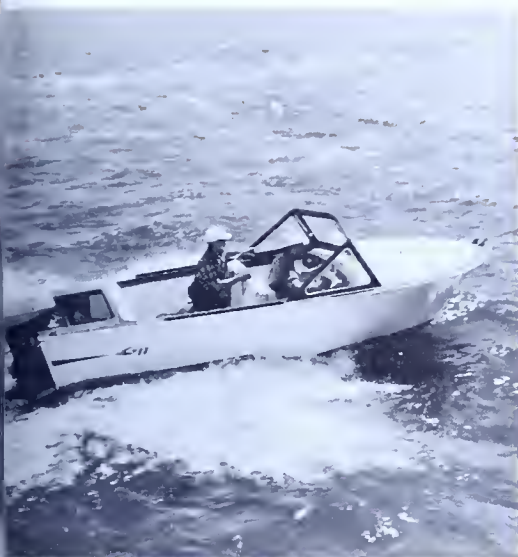
Flood damage reduction, for example, will involve water impoundments, both large and small. And, since today's thinking calls for most such projects to be multiple-purpose, recreation involving water-based sports such as fishing, boating and swimming will be included. Addi-



WATER IMPOUNDMENTS, large and small are proposed for water supplies for municipalities, industry and agriculture.

IMPOUNDMENTS will also reduce flood damage and help prevent our streams running dry due to prolonged drought much like the one we are now experiencing.





Boating



Picnicking



Fishing

tionally, public access is assured at all reservoirs that may be built under the compact.

Water supply efforts probably will be most beneficial to municipalities, industry and agriculture, but since reservoirs are involved here also, water-based recreation again becomes a welcome byproduct. Then, couple this with the work in flood damage reduction and you have a good start toward an ideal situation: the right amount of water at the right time. The two together could mean better flows in the rivers and streams, and better levels in the ponds and lakes in August and September.

Water quality, especially in pollution-conscious Pennsylvania, is a term which generally speaks for itself. But let us discuss it briefly anyway. For the outdoorsman, high quality water—that generally suitable for most uses—means a better crop of fish, improved game habitat, and more swimming, boating and water-skiing areas. For the businessman, high quality water spells “economic development.” It is a simple fact that industry will not locate in an area where it must go to undue expense in treating water before using it for manufacturing. And, it is a good guess that the future development of the Susquehanna Basin, despite its many natural and man-made attractions, as a vacation land would be greatly inhibited without that one very important ingredient—clean water.

In regards to historic and scenic values, the signatory parties to the compact agree to consider the compatibility of all water resources projects with areas of natural beauty.



This section of the proposal is an effort to save these places of inherent though perhaps intangible value from inundation or defacement by the bulldozer.

Stimulation of better soil conservation and watershed and forested land management, of course, means improved runoff conditions and less sediment in the streams, rivers and reservoirs.

The Comprehensive Plan

The comprehensive plan to be drawn by the commission would include all these widely different kinds of water resources projects. The commission would first take into account existing projects and those already part of well-advanced programs, then judge what else needs to be done in each of the aforementioned fields to meet the immediate and future demands of the basin.

The combination of the two, then—the things already done or being done, and the things that still need doing—will be the sum total of the frequently reviewed and updated comprehensive plan and action program.

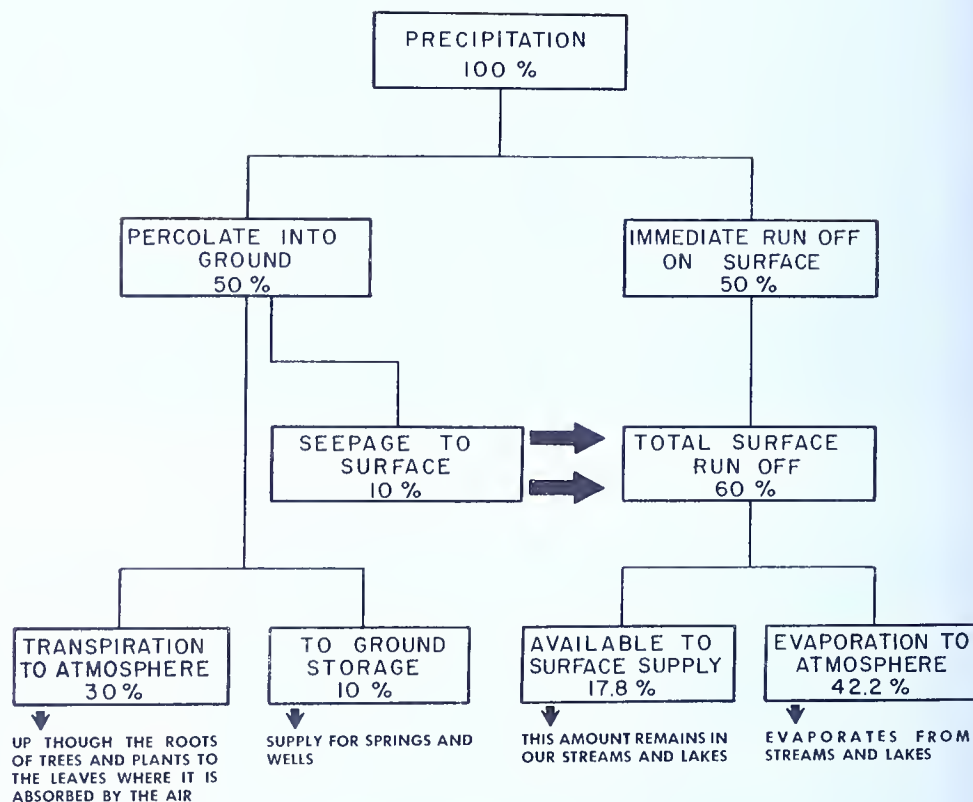
To go one step further, both the plan and the program will be based on the results of an all-inclusive survey of the water and related land resources currently being conducted in the Susquehanna Basin. These studies, which are being carried out primarily by seven federal agencies with the help of the three basin states, are scheduled for completion in 1969.

The survey covers a wide range of subjects, which may be grouped under these general headings: water pollution control; flood control; public and industrial water supply; hydroelectric power; watershed conservation and development (including irrigation and drainage); economic trends and prospects; resources research and planning; recreation (including fish and wildlife); forest land management, and ports and navigation (mainly recreational).

The final reports on the survey will provide the commission with an appraisal of the basin's economic future and of present and future water and related land resources development needs.

WATER, THE ESSENCE OF LIFE

By **WILLIAM W. BRITTON**
Chief—Division of Law Enforcement
Pennsylvania Fish Commission



ESTIMATED DISTRIBUTION of Precipitation.

WE CANNOT ignore our responsibility to humanity. It is a moral obligation and a national duty for each of us to guard our streams and lakes from impurities. One careless act may result in sickness, or even death to some innocent person.

The demands being made on our water supply have increased to an overwhelming extent. It is almost impossible to visualize, much less describe the situation in which we find ourselves. It did not happen over night. It will not be corrected in a fortnight.

Before the large trees were cut down in our forests, sphagnum moss covered most of the forest floor. This moss acted as a sponge to absorb the rain water and permitted it to seep out over a period of time thus feeding the springs which fed the streams, lakes and rivers. Once the trees were gone the sun dried up the moss. Our natural reservoirs were lost.

It is estimated that each raindrop is distributed as follows: 50% runs off the surface immediately with an additional 10% finding its way to the surface from the 50% which percolates into the ground. This leaves 40% in the ground of which 30% is transpired to the atmosphere up through the roots of trees and plants to the leaves. Only 10% finds its way to ground storage. This 10% supplies our springs and wells. The 60% run off is divided into two categories. 17.8% is available to surface supply which means streams, lakes and rivers, and 42.2% evaporates from these waters into the atmosphere.

The U. S. Department of Agriculture has, for years, sponsored soil and water conservation programs instructing farmers and landowners how to plow their fields, about the proper crops to grow, and the building of farm ponds, among many other things. All this has been a marvelous aid to soil and water restoration, but a larger job remains to be done. Flood control dams are being constructed. Legislatures are enacting laws which prevent industries from discharging untreated wastes and other deleterious substances into our streams and rivers. Municipalities are being required to install disposal plants, if they have none. Coal miners are required to backfill stripping operations, but many old abandoned deep coal mines in some states are still spewing their sulphuric acid into our streams. At Williamsport, Pennsylvania, a monitoring system has been installed in the West Branch of the Susquehanna river. When the pH drops below 4.9 a bell rings and a light flashes at city police headquarters. This usually occurs in summertime when the water is low, or just after a heavy rain or prolonged rainy spell. When it happens, thousands of dead and dying fish may be observed.

(pH is a term used universally to express the intensity of the acidity or alkalinity of a solution. Neutral being at pH 7. pH under 7 indicates an acid solution, and over 7 an alkaline solution.)

Farmers and horticulturists should be extremely careful with the use of pesticides. Toxaphene was being used by a farmer near Hershey, Pennsylvania to kill spittle-bugs on his alfalfa. He had placed the poison in the spray

the common *DRAGONFLIES* of pennsylvania

By CARSTEN AHRENS

Illustrated by Karin Ahrens DeStefano

Water, the Essence of Life—(Cont'd.)

tank and was in the act of pumping water from a stream into the sprayer. His wife called to him that he was wanted at the barn. He shut the pump off, but did not remove the hose from the stream. The mixture was siphoned out into the stream and killed all fishlife for seven miles. Had his cattle and his neighbors drunk of this water as the slug was passing downstream, they may have all been killed.

Some orchardists use endrine to kill mice and moles. This deadly poison kills on contact. One quart of endrin to four million quarts of water is lethal to fishlife. It is usually sprayed after the crop is harvested. One group of orchard workers accidentally spilled about a gallon of endrin along a stream from which they were taking water for the sprayer. A muskrat trapper noted dead fish, muskrats and ducks along the stream. A sample of the water was taken for the Department of Health for analysis. The chief chemist said, "I predict that within the next fifteen years someone will be responsible for permitting one of these deadly poisons to enter a drinking water supply which will kill thousands of innocent people. I hope I am wrong, but I am dreadfully fearful."

Must we wait until such a catastrophe occurs to educate our people?

It is possible that other countries have water pollution problems far worse than ours. The March 7, issue of the *Washington (D. C.) Post* quoted a Russian newspaper, *Medical Gazette*, as being alarmed about pollution of irrigation canals in that country calling it "barbarian" and stating that it was getting worse. Our system of canals presently has fifteen times more pollution than in 1961. Infectious disease rates have quadrupled. It was attributed to a shortage of pure drinking water. A cholera epidemic in Central Asia last year was undoubtedly caused by contaminated drinking water. We dare not let it happen here. If we fail, we will have no right to expect to be excused or forgiven for we now know the dangers which lie ahead.

We need not be concerned too much about our up-standing citizens. It is that small minority who know no better, or the person who places financial gain above the health and welfare of the people of our great Country. Perhaps the latter group should do some soul searching before they sing, "My Country 'Tis Of Thee."

ABOUT the world, over four thousand species of the Order Odonata . . . the dragonflies and damselflies . . . have been described and given scientific names. In the United States and Canada over four hundred species occur. This sounds like a sizable group until one remembers that the Order of beetles numbers in the hundreds of thousands of species. Here in Pennsylvania, although a list of its Odonata has never been published, there are probably well over one hundred and fifty species.

But the outdoor person is apt to be much more aware of the dragonflies than he is of the more numerous beetles. Although there are notable exceptions, beetles hide themselves away from sunlight and are more or less nocturnal. Dragonflies love the sun and when it returns after a storm, these insects take to the air with an abandon that is delightful to watch.

Then they resemble animated enameled jewelry in all the colors of the spectrum plus black. Few animals can match their ability of holding themselves almost motionlessly poised in the air on rapidly beating, multiveined, often highly banded or spotted wings. Few can equal the speed that shoots them from the margin of a stream into the depths of the sky overhead.

Sooner or later they will come down to earth again, usually in the vicinity of water, for that is where their life began, where mating occurs, and where the eggs are deposited. Some female dragonflies carefully insert each egg into the stem of a waterweed; they have been given a sharp ovipositor for this function. Others simply slap the end of the abdomen against the water and liberate scores of eggs each time. A female will lay thousands of eggs during her short adulthood. Near the shore, too, live the water-borne gnats, midges, and mosquitoes that dragonflies devour in countless numbers.

From the eggs hatch the sprawling larvae that clamber on six long spiny legs about the submerged vegetation, or move in or beneath the debris at the bottom of the pond, lake, or stream. They may spend a few months or even years as larvae; the length of time is determined to some extent by the life cycle of the species and partly by the temperature and the abundance of food.

Then, usually early in the day, a larva climbs up the stem of some water plant and leaves its aquatic existence forever. Its larval skin cracks down the back and the dragonfly, damp and droopy, pushes itself through the opening. The insect that emerges is quite unlike the larva, for the new being soon transforms into an armored creature with gleaming wings and a completely different

breathing apparatus that is patterned for its aerial life. From now on it will fly instead of crawl, now the legs will be used for catching and holding its insect prey, and for clinging to a protective plant during the night or inclement weather. It will fly at first a bit uncertainly, but soon it will skim about with a marvelous skillfulness that sets it apart from all other insects.

Once wing-borne, the dragonfly is an adult and its life cycle is nearing its climax. Mating and egg laying must be completed before the insect meets its fate in the form of some predator . . . often another dragonfly. Occasionally, death comes during a long, cold, rainy spell in summer or with an early frost. In our state, apparently, no dragonfly hibernates as the mourning cloak butterfly does.

In a study the writer has been making of the dragonflies along the streams that form the headwaters of the Ohio River, the following ten dragonflies have been encountered most frequently from the northwestern part of Potter County where the Allegheny River gets its start to Greene County, down on the Mason-Dixon line:

1. The *Common Green Darner*, scientifically known as *Anax junius*, can be found around swamps and ponds in any county in Pennsylvania or in any state of the Union. It is a powerful flyer with a bright green thorax and a blue abdomen. Its wings are without spots, but they are often yellow tinted. It's one of the earliest dragonflies on the wing in spring (I collected one at an Oxbow Lake near West Newton one March 26th), and it flies until frost time. Its genus is found around the world, and a relative, known as the Walsingham Darner, is the largest dragonfly in the U.S.A. I took one near Washington, Utah that had a wing spread of five inches.

2. The *Hero Darner*, (*Epiaeschna heros*) is a large, powerful, high-flying dragonfly of eastern America, the only species of its genus. It's a dark brown creature with thorax decorated with green stripes and the abdomen with yellow. Its wings are tinged with yellow, too. Little is known of its life cycle. For all its love of speed and freedom, its curiosity is so great that it cannot pass by an open, unscreened window. It gets inside and then can't find a way out. Of the two dozen Hero Darners that have been in my collection, only one of them, an ovipositing female, was netted out of doors. All the rest were taken inside . . . the majority in school class rooms.

3. The *Common Paddletail*, (*Aeschna umbrosa*) is another large dragonfly that is often found flying during late summer and autumn about ponds and slow-moving streams in eastern North America. It has a brown thorax and abdomen decorated with blue and yellow, but the blue is so vivid that one gets the impression that the insect when in flight is entirely blue. The wings are transparent without tint or spots. The dragonfly belongs to a big, world-wide genus with over 20 species in North America of which seven, at least, have been reported from our state. All are characterized by a black T spot that patterns the head. The female possesses a sharp ovipositor for placing the eggs below the surface in the stems of water plants.

4. The *Common Amber Wings* (*Perithemis tenera*) is a dainty and very petite insect one frequently meets by lily ponds. It belongs to a genus that is at home south of the border, but this one species is common in eastern U.S.A. and Ontario. In most dragonflies, the male and female are quite alike in wing coloration. Here we have an exception. The thorax and abdomen in both are brown, but the wings of a male are a warm yellow-amber with just a hint of a black spot in each wing, while the female's wings are decorated with two cross bands of brown. Their flight patterns are most undragonflylike for they do no aerial acrobatics. They are active insects but confine their flight to the space close to the surface of the pond.

5. The *Widow* (*Libellula luctuosa*) is a rather inane appellation for it is applied to the male as well as the females; common names of insects are often misleading. The Widow is so called because of the wise funeral band that covers the bases of the otherwise clear wings. It belongs to a large genus that is found chiefly in northern lands around the world. Most species, however, are American. The Widow is well-known for it flies in large numbers during the five warmest months of the year and is known from Mexico, across the United States, and into Canada. It will probably be recorded from every county in our state. Netting the Widow is not difficult because the dragonfly makes short flights and rests frequently on the surrounding vegetation.

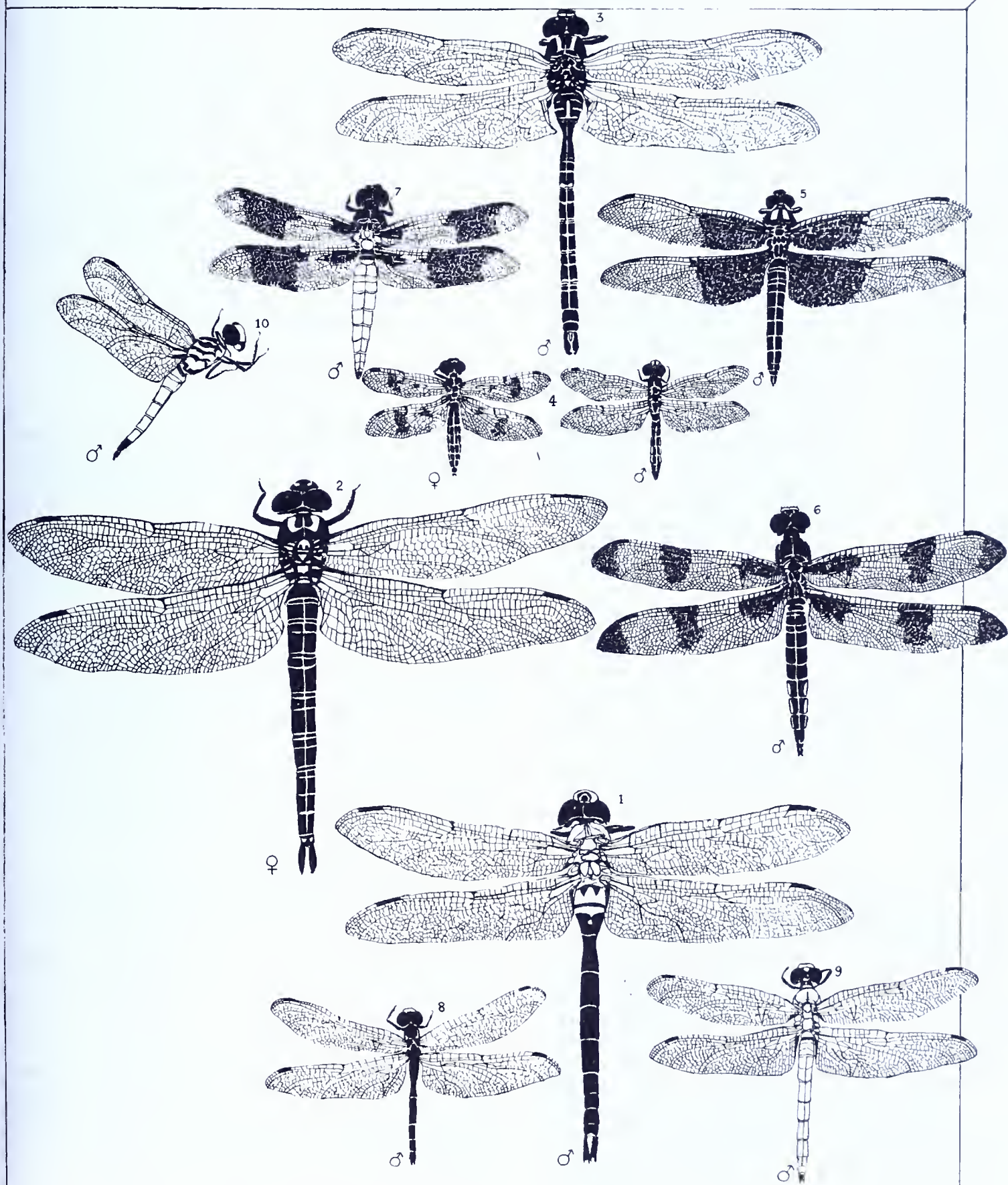
6. For several reasons the *Ten Spot* (*Libellula pulchella*) is perhaps as well-known as any of our dragonflies for it is found throughout most of the 48 states, in southern Canada, and is active most of the warmer months of the year. One can't overlook it, for the big, brown-spotted wings demand attention. In old age, chalky white areas develop between the brown wing regions, so as it matures, it becomes more and more noticeable. Then, too, it is an extremely active insect, so curious that it seems to butt in on any situation that involves motion. It's ready to attack anything that moves anywhere. Ten Spots are apt to be encountered in most unlikely places . . . often miles from the nearest rill or pond. And if it's moving, and it's apt to be, you can't miss seeing it.

7. The medium-sized *White Tail* (*Plathemis lydia*) is commonly associated with the larger Ten Spot. It, too, has a wide range, a long flying season, plenty of eye appeal, and is very numerous. However, it remains close to water and doesn't duplicate many of the aerial feats that Ten Spot performs. It makes short flights and then squats on a bare rock or a dead twig to sun itself and wait for insect prey or a mate. Its common name, "White tail", was suggested by the White-washlike coating that in old age completely covers the insect's abdomen. Here again we find the rare exception of difference in wing coloration of the sexes: the male has one broad band completely across each wing while the female is spotted much like the larger Ten Spot.

8. The *Common Red Skimmer* (*Sympetrum rubicunculum*) is one of the smaller dragonflies, but it has wide distribution and locally is often extremely numerous. Its genus contains over a dozen U. S. species and all of them are reddish and most of them become more noticeable in fall for their bodies become progressively red as autumn advances. The majority of the species of the genus are so like their relatives that it takes a specialist with a hand lens to tell them apart. The Common Red Skimmer is cherry red in the male and yellowish red in the female. Both have a row of black triangles down each side of the abdomen. In spite of their common name, these dragonflies spend more time about the shore vegetation than skimming over the water.

9. The *Green Jacket* (*Erythemis symplecticollis*) are medium-sized, clear winged insects that are found almost everywhere in North America. They squat on a stone, floating algae, or a bit of driftwood in their pea-green and black armor. When disturbed, they fly just a few feet to squat again. The males soon develop a powder blue bloom that completely hides the green and black beneath. Soon it looks so unlike its mate that it seems to be an entirely different species. The Green Jacket is a born busybody, constantly interfering in the affairs of other dragonflies. The collector finds it a pest for it frequently drives away the insect he has patiently stalked. The genus is chiefly Central and South American, but this species has surely made itself at home in the North.

10. The *Blue Pirate* (*Pachydiplax longipennis*) is another medium-sized and mostly clear winged species. There is a spot of color at the base of each wing, and in old age the center area of each wing is apt to become tinged with brown. It is the only member of its genus, and like the Green Jacket, its first colors (grey-green striped with brown) soon becomes hidden beneath a coat of powdery blue. It is an active, elusive insect, not easy to net. The rather short wings do not live up to the scientific name "*longipennis*" which, of course, means "long wings". The Blue Pirate will attack any dragonfly regardless of size. It usually has a home perch to which it returns after each sally. Its distribution is wide, over much of Mexico, the 48 states, and Canada.



Women on the Water

By HELEN HIGHWATER

MY HUSBAND would rather fish than eat. This once meant that on week ends he was what you might call a passing acquaintance—passing me on the way out the door on Friday after work and passing me on the way in the door Sunday evening.

I got so lonesome I even thought of divorce. My lawyer asked, "What grounds would you give?"

"Temporary or permanent insanity!" I said without blinking an eyelash.

"It won't work," he concluded. "Every judge on the local bench is also a fisherman and you'll get no sympathy from them. Their wives are in the same boat."

Whereupon I surrendered to the inevitable and decided that if it was necessary to take up fishing in order to be with the big brute in his hours of relaxation . . . I would make the sacrifice. So the next time I caught him with his nose OUT of the PENNSYLVANIA ANGLER I presented him with the good news. He took it better than I thought.

Trout season was the next activity on the fishing calendar so I made plans to go along. The Big Cheese—his name is Bill—told me:

"I'll take you with me any time you're ready. You can wear my extra waders and my 7½-foot flyrod is light. You'll do fine with that."

"Why do you call it a flyrod?" I asked a question that had bothered me for years. I knew they couldn't fly."

"Because we use flies to catch the fish with, Silly," said he.

"Oh," said I—not really knowing much more than before I had asked him. But I was to learn.

* * *

At streamside, on opening day, Bill put my rod together; ran the line through the little wire hickies (he called them guides); tied on a nylon leader and announced, "Now, I'll put the fly on for you."

"I have my own," I said with pride. "Go on about your



fishing and Ill take care of myself." After giving me one of those "Go ahead—hang yourself" looks he went upstream. I went down.

At the end of the morning's fishing when we met at the car for lunch, I had eight fine trout. Bill had three. I really didn't rub it in but there was an unmistakeable edge in his voice when he said, "You'll have to stop fishing now. Eight's the limit."

"Why didn't you tell me that before," I complained. "I lost five others. Trying to get me in trouble with the law so I can't go fishing with you any more?"

"Didn't expect you to get any," he grunted. "What pattern fly were you using and what size hook is it on?"

I held up the hook (which I'd bought in a dime store) with the honest announcement that I didn't know what size it was. His eyes kind of popped a bit when he saw it.

"That thing is snelled on about 50-pound nylon," he groaned. "Where's the fly? Did you wear it out?"

"Oh, I had more than one," I said, "but I used them all—maybe a dozen or more."

"A dozen?" Bill scratched his head.

"Sure—I've been saving them for days in a little bottle. Found some dead ones in the windows in the garage and some in the cellar windows. Or were they just hibernating until Summer?"

You know, he didn't even have the courtesy to answer my question.

* * *

Bass fishing was next. Bill put almost as much preparation into this as he did in getting ready for trout. In fact, I'm sure that men get more pleasure out of planning a fishing trip than out of the real thing when it comes along. At least when you are planning a trip you are home by the fire. When you're out fishing you may be up to your navel in ice water or shivering in an open boat while a rainstorm tries to get as much water in the air above you as there is in the lake beneath.

Bill said bass bait was important. "Later on in the season I'll use nothing but artificials, but right now I've got to fish deep and I want some crawdads. We'll go out to a stream tonight and catch some softshells. It's easier to spot them at night with a lantern."

We went out as soon as it got dark. I held the light and the bucket. He said we'd walk up the creek until we saw the "shed" and there would be a softshell crayfish nearby.

"There's one now," he directed. "Hold the light over here."

I looked around but I couldn't see any shed except one behind a farmhouse about a mile away. By now I'd grown accustomed to some of the peculiarities of what I'd once considered a perfectly normal husband, so I just held the lantern where he pointed. He scooped up a small crayfish and dumped it in the bucket. We repeated the act at various places along the creek until Big Brute declared we had enough.

When we got home we had a big domestic hassle over whether he could keep them in the refrigerator but I finally let him win. He claimed the lower temperatures would keep them soft and make them better bait. On

opening day we were out bright and early and on the lake. It was rough.

"If you feel like tossing your cookies," he told me, "Do it WITH the wind." I hadn't even brought any cookies along. I asked him if he wanted me to toss him the sandwiches and cake but he just muttered something about my mother. Since I can't swim I ignored him.

He put a crawdad on my hook and I threw it into the water. It went down under the boat and I saw something flash and the next thing you know my line felt like there was something heavy on the end of it. The reel kept turning and line kept running out. After a while it stopped and I just let it alone thinking maybe it would go away. But the line started moving again and it felt heavier this time. I jerked on the rod and right after that a big fish jumped out of the water about 40 feet from the boat.

I reeled him in with great difficulty and Bill put a butterfly net under him and lifted him into the boat. "It's your fish," Bill said, "take him off the hook."

I did. Then I weighed him on Bill's pocket scales. The fish came to exactly eight pounds.

"What kind of fish is it?" I asked.

"It's a bass," he said sarcastically—VERY sarcastically, "but surely you're not going to keep one that small are you?"

So I threw the fish back in the water. Bill almost dove in after it. That man is losing his grip.

* * *

Well, the upshot of it all was that we took a lot more fishing trips throughout the year and when Winter came along I figured I'd learned quite a bit about fishing. As it got close to Spring we both got kind of restless to get out in the open again. Bill said that not even my name would keep him (Helen Highwater, y'know) from being out on the lake for some perch fishing. After looking through all the outdoor magazines he also remarked, "AND we are gonna get ourselves a new egg-beater this year."

So when the day came that the lake opened up and we went down to the boathouse I took a new egg-beater out of the kitchen utensil drawer—because I hadn't seen Bill come home with one. I figured he'd forgotten. As he worked the boat out into open water with the oars I noticed he'd bought a shiny new outboard motor. He kept it tilted up until we got into deeper water.

He moved toward the stern of the boat and said, "Well, let's get the egg-beater in the water and get started!"

I reached into the tackle box, got it out, and stuck it into the water over the side of the boat. I waited, patiently, for further instructions.

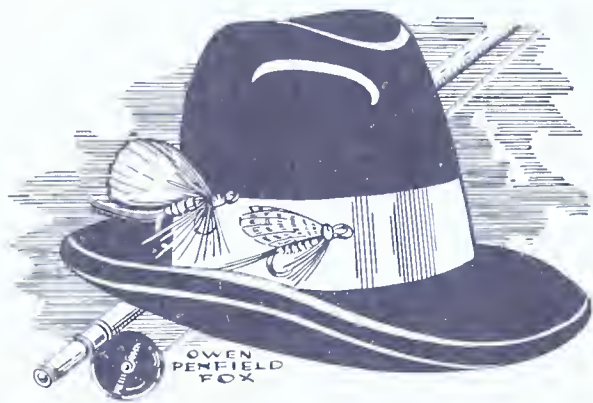
I turned to ask him what to do next but he started the motor and we were moving through the water and my arm was getting wet.

"Sit up straight," he hollered. "You're tippin' the boat."

"Well, if you insist," I hollered back—realizing two things at about the same time. First—what he meant by egg-beater and second that if I didn't drop the one in my hand over the side of the boat I'd probably never live it down. So I let it go, turned around with a big grin and said, "Let's go."

We've been goin' (fishing, that is) ever since.

Face-Saver Fish



By JOE FISKE

I fish a lot of days when I need a face-saver fish. I'll bet you do too. These are the days when I fish for bass or walleye, and they are in that so-familiar mood when they won't touch a thing I have. What do you do about the moment of truth? You get home, and the kiddies, or the wife, call out, "Well, what did you catch?"

On the worst days we have to hang our heads and say, "They just weren't biting." But some days we can say, "I got a nice catch of rock bass." No apologies! No hanging our heads! Maybe the bass weren't biting. So what? We didn't get skunked anyway.

I caught my first rock bass from a beautiful stretch of Tunkhannock Creek. About four miles upstream from the mouth, a section of this stream runs at the foot of a steep mountain. We used to find the spot by driving up old U.S. 6 toward Factoryville for about five miles. After crossing the second bridge, the road passed an abandoned one-room school house. Now it's a gas station. A lane ran from behind the school house through a field, down an almost perpendicular gravel bank, to the flat alongside of the creek. Because of the shade of the mountain, the air is always cool down there. The creek has rocky riffles and deep pools.

It was the summer of 1939, and two of us had just graduated from high school and were camped in an old wall tent. The bank of the stream made a fine flat camp. Upstream a hundred yards, a cold spring dripped from a ledge on the mountain side. We were there for a week of bass fishing.

We spent the first morning catching bait—hellgrammites, of course. Wading slowly in the riffles, we turned flat stones carefully. Big, juicy hellgrammites—"clippers" we used to call them—clung to the under side of the rocks.

Sometimes we would also find that succulent bass bait, the stonecat, and get our fingers stung for our trouble. We weren't hunting hellgrammites for rock bass. We were going to catch some nice fat smallmouths.

About eleven o'clock in the morning, I discovered that my legs ached clear up back of my ears. Bending from the waist, peering into swirling water, and turning hefty rocks is a good morning's work-out. So I quit searching for bait, and tried the fishing.

Just above the pasture field where we were camped, the creek rushed headlong against the mountain, discovered itself thwarted, and was digging a huge hole under a shale ledge. I waded out into the riff just above this hole, impaled a hellgrammite on a number six hook, and heaved him down into the hole. The current washed the hellgrammite back under the ledge where it was dark and mysterious. There was a good solid strike. The line moved off a little ways, and a fish could be felt as he mouthed the hellgrammite preparatory to swallowing it. When he began to move again, I lifted the rod tip and jabbed him with the hook.

It wouldn't have surprised me to see the explosion of a smallmouth at the surface. But this was a deep fighter, making short runs, setting himself crossways to the current and letting his slab-sided body work for him. I eased him up into the shallow water of the riffle, and slid the net under him. Fisherman's luck does some funny things. I believe this first rock bass I ever caught was my biggest. He was a chunky eleven-incher, and would have weighed about a pound.

I've caught a lot of his relatives since that day on Tunkhannock Creek. I know he isn't really a bass—just one of the numerous cousins in the sunfish family. He isn't even a very attractive sunfish, as far as looks go. I know a lot of fishermen turn up their noses at him. Not me; I have all kinds of respect for him.

For a couple of years, I lived at Skinner's Eddy. From Tunkhannock all the way to Homet's Ferry I've found pockets of water in the Susquehanna where you can catch rock bass most any time you want to. For me that's most any time I'm fishing. He's saved the day for me more times than I could tell.

One October day, when I lived at Skinner's Eddy, I got a phone call from Harry Michael, who runs the drug store in Laceyville. "I've got a bucket of minnows and a boat," he said, "let's go up Lacey Street and fish a while." Any time you get a chance like that in October, I hope you know better than to refuse.

Part of the mountain across the river from Lacey Street is pocked with the remains of the old blue-stone quarry. Tons of rock have tumbled down the mountain side, and lie along the edge of the river. We anchored the boat along this rock shore, and found that the rock bass were so hungry for creek minnows that we could catch them steadily all afternoon.

Spring, summer, and fall this stretch of the Susquehanna has yielded frequent catches of bass and walleye. Bullheads are common in the quieter portions of the water. One hot day, I saw a bewildered fisherman unsuspectingly

stab a hook into a monstrous carp and have the rod jerked out of his hand. But on the off days, in pockets of water among the rocks, you can keep from being skunked by catching a mess of rockies.

While October is one of the best times to fish for rockies, there is another time just as good. It doesn't seem to make any difference where you are in the northeastern states, the rock bass go on a wild feeding spree when the blackberry bushes are in blossom. At this time of year, a small night-crawler or an ordinary garden worm seems to be as good as anything, although mud bugs and water worms are avidly taken if you can get them.

The nice thing about rock bass is that they aren't fussy about their menu. Worms are good. Hellgrammites are excellent. Very small crawfish are sometimes the best bait of all. Little minnows are usually adequate. Any kind of bug, nymph, or worm that lives or falls into the water seems to make a meal for the rockie. If the bait is too big, the rockie will probably take it a bite at a time, and you won't have the pleasure of his business on the end of the line. And sometimes you have to hunt around until you find the rock bass, and then fish right where they are. They won't come looking for you.

One night, fishing with my dad just above the Tunkhannock bridge, we anchored our boat where two little currents of water joined below an island. At one end of the boat, the rock bass were biting furiously. At the other end, absolutely nothing was happening. A school of rock bass were lying in a sheltered spot behind some rocks. They were in a hole no bigger than an old-fashioned wash tub. Drop the bait among them, and there would be instant response. Miss the spot by a foot or so in any direction, and you could fish all night and catch nothing.

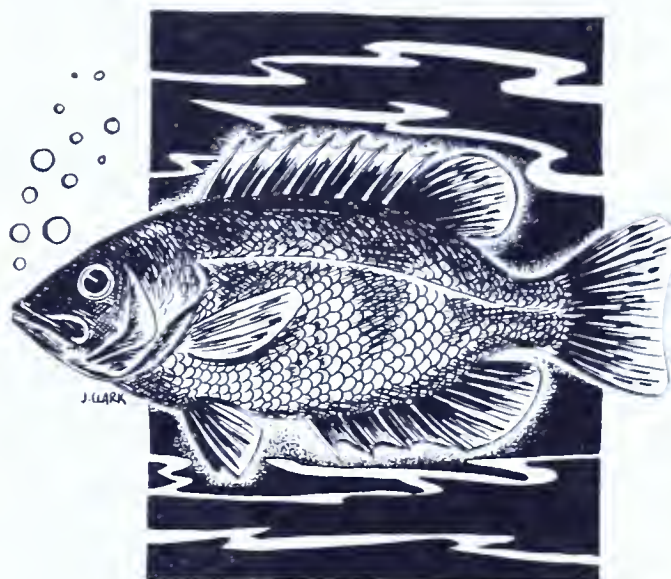
Another evening's fishing on Tunkhannock creek, my dad neatly skunked me by discovering a pocket of rock bass between the forked roots of a dead sycamore stump. He filled his stringer, while I pursued smallmouths and caught none. The supply of rockies under that stump seemed to be inexhaustible. As fast as they were caught out, another school would move in.

Don't wait for blackberry bushes to bloom, nor for October to come, for any time of year is good enough. I never caught a rock bass while ice-fishing, but I expect it has been done. Most any kind of bait will suit the rockie, and the variety of artificial lures on which he has been caught would defy any listing.

What a rock bass plans to do with some of the over-size bass plugs he grabs no one could know—unless he plans to take them home for company. Sometime try your smallest minnow-imitating plug in good rock bass water. The action will amaze you.

Wet flies are probably the top lure for rock bass. I've always had my best luck with a McGinty or a Western Bee. Maybe the visibility of this fly in murky water helps it to be a winner, but rock bass really go for it. But most any wet fly, especially the patterns with chunky wool or chenille bodies, do very well.

Many times a small streamer fly or bucktail will do the trick. You just can't predict what a rock bass is going to eat. One summer night, just for the fun of it, I tied up



some "barnyard folly" streamers with odds and ends of oversize and crazily colored feathers. They weren't supposed to catch fish. A week or so later, I was wading a riffle and casting flies for bass. Just for fun, I tied on a red and green streamer nearly three inches long. It cast sloppily, and I was paying no attention to finesse. I slapped it down on the water alongside a wad of willow roots. Immediately it was nailed by a good-sized rock bass who was certainly more angered than hungered by the queer lure.

The most fun, for me, is found on those humid nights in July when the rock bass have a half hour of madness just at the edge of darkness. Then a dry fly or a tiny popper will take a rocky almost every cast.

When I get home from a day's fishing, and the kids discover that I have a stringer of rock bass, they always say, "Can't we have some fish cakes, please?" I dress the fish, taking the skin off entirely. Then I put an inch of water in the bottom of a generous-sized kettle and add to it a shake of red pepper, a couple of bay leaves, and a half cup of vinegar. The rock bass are steamed over this mixture for about ten minutes, until the meat can be easily picked from the bones.

When you have your fish picked off the bones, run it through a food grinder with an equal amount of boiled potatoes. To this add two beaten eggs and a little milk. I combine all this in a bowl, season, and blend well with an electric beater. When mealtime comes around, I fry this mixture a tablespoon at a time in deep fat. Serve with cabbage salad, and sauce made of equal parts of catsup and mayonnaise. If anybody at your house turns up his nose at this dish, wrap his portion securely and send it to me. I'll gladly take care of it for him.

I don't mind the days when bass won't bite. I have a face-saver fish. And when I get home with a mess of rock bass, and have them cooked up in a plateful of fish cakes, I'd just as leave the bass wouldn't bite.

SOFT PLUGS FOR

A BASS, of arm-long size, lived near an old preserved cedar stump in a paper mill dam near my home. No ordinary bass, this one. It proved a real whiz-kid, too shrewd and sharp-witted for me.

Tentacle-like roots spread out in all directions from the stump. I snagged numerous sinking lures fast to the old roots. But it was an ideal setup for a surface plug. On numerous occasions I plunked down a hard plug near that lair. This invariably brought the bass charging in for a kill. Without slowing speed, it nudged the bait with its nose, sending the plug jumping a foot or more into the air. Upon finding the bait merely a hard piece of wood, the bass buttoned its lips and returned to the inner sanctum of that stump. No amount of teasing could further provoke that gentleman into investigating another bait for a day or two.

I had been snubbed too many times by this fish, about gave up all hope of ever catching this hard-headed bass. But a new bait displayed in a dealer's showcase changed my mind.

It was a soft, mushy plastic plug, something new in the never ending array of fishing lures. I normally don't bite on newer innovations. But these soft plugs proved too tempting.

The plugs were so flexible that I could easily compress one in my fingers until the forward head touched the tail. Had the plugs been moulded longer, one could tie them into a knot. I couldn't help think that they were the most unique invention in plug baits ever to hit the market. I chose a perch-colored "chunker," handed the proprietor some folding money and went home.

During the drive home, I pictured my foe, that old hard-headed, bucketmouth bass, charging from its log house. If it nudged this plug with its nose, I'd wager that it would do an about face and gulp the whole plug down the hatch, hooks and line included.

Two days later, toward evening, I found time to drive to the old dam. I hastily assembled my spin-casting gear, attached the soft plastic plug to the line, then motored quietly in the direction of that stump filled cove. Approaching within several hundred feet of the stump, I silenced the kicker and drifted into casting position. A redwing blackbird perched on nearby cattails, displaying its bright wing patches and singing its familiar *ker-chee* song notes. The wind died down until the pond surface was broken only by faint ripples. Swallows and swifts were darting about in the upper air, catching bugs for their evening meal.

With as much anticipation as a kid about to lick his first ice cream cone, I pitched the soft plug toward that partly submerged tree stump. The plug touched down a foot or so from the stump. It hit with a "plop," not unlike the sound of a frog diving into the water. I waited. A few seconds later the disturbance rings had dissipated. A twitch from the rod tip brought an enticing "chug" noise in response. Old bucketmouth, geared to the supper hour, came up fast. It belted the plug so hard it bounced half a foot or more above the water. In a flash it smashed into the bait for a second time. This I was waiting for. Amidst the flying spray, I drove the hooks home. I don't know who was more surprised!

The bass weighed 6¼ pounds, all head and brains and stomach.

This was my introduction to the new soft plastic plugs. Off, at the start, with such an outstanding catch, my enthusiasm soared.

With so many types of plastics on the industrial scene today, it was inevitable that someone would hit upon the idea of making soft plastic plugs. To be sure, soft plastic baits moulded into the shape of dew worms, frogs, salamanders, and the variety of other fish baits, have been available for quite some time. Even toys for children include one kit for making soft plastic insects and animals. But soft plastic plugs, moulded over the classic lines of hard wood lures, are something else, and new, again. Soft models won't antique the older hard plastic and wood bass lures. But for the first time, bass and pike will grab them and actually try to swallow 'em.

My big bass didn't put a scratch in the soft mushy body. A small pickerel, however, caught that evening, cut several shallow gashes into the plug body with its sharp teeth. This gave rise to thoughts that really big pike and muskies, including walleye which do not have to take a back seat when it comes to impressive teeth, would slash the soft plug to pieces. Doubtlessly the flexible chain connecting the hooks, and moulded into the bait body, would hold well. But who wants to pay good money for baits that are chewed to bits after catching a fish or two?

I wrote to the president of the bait company expressing my concern and asked what provisions the company had for replacing baits so damaged. Here's the reply.

"You asked whether or not plastic would stand up under constant pike punctures and walleye wounds—just dandy, I assure you. During one of our Field Test Trips we tangled with a mess of Saskatchewan pike. I still

HARD HEADED BASS

By DON SHINER



THESE PLUGS look like ordinary hard plastic or wood plugs. But take a look at picture No. 2.

BUT THESE PLUGS are made from soft, mushy plastic. They're so soft that you can bend them double with slight pressure from your fingers.

have one plug that caught a grand total of seventy-five. It looks pretty bad, but it still works. Hollow plastic plugs would have punctured and sunk long before, and wooden plugs would have been without paint. The plugs will cut, but it's not serious—sort of like a self-sealing tire, since the plastic is of a closed cell construction.

"Also, the plugs are built with an internal ninety-pound test stainless steel chain, so it's probably the toughest plug on the market from a pull test standpoint as well."

One of the creepy things about fishing these new soft plastic plugs is that fish apparently assume them to be alive and edible. They strike the baits viciously, then hold fast, even attempting to swallow them. It is reasonable to suppose that many strikes missed by anglers with hard wood plugs are not misses at all. These fish poke at the plug but turn tail and swim away because the bait is hard and unnatural. Not so with these soft mushy plugs as proved by that old bucketmouth which lived, who knows how long, in the tentacles of that old cedar stump.

Judging from the success that fishermen are enjoying with these new baits, there will be more companies getting into the mushy plug business. It appears now that soft plugs will become standard baits on bass and pike ponds throughout Pennsylvania. These lures may not net more strikes than do hardwood lures, but, by golly, any fish that slams into soft baits is going to hang onto them! Rest assured of that.



JUNIOR CONSERVATION TOUR

by

TOM EGGLER

Staff Writer-Photographer



EXPLAINING A WATER TEST, Del Graff, fishery biologist at the Benner Springs station, demonstrates how the test is made. The boys also saw how the flow rate of a stream is checked.



LOTS OF BIG ONES drew rapt attention from members of the touring junior conservation group as they surveyed the holding ponds at Benner Springs where trout used for experimentation are kept. Walter Bair holds one of the lunkers out of the water so the boys can get a better look.



AQUARIUM DISPLAYS of various fishes at the Benner Springs research station were inspected by members of the camp. Don Breon explains the displays in the hatch house to the group.

Members of the 1966 Junior Conservation Camp toured research facilities of the Pennsylvania Fish Commission at Benner Springs this summer and then took a crack at putting into action some of the things that had been explained to them.

Sponsored by the Pennsylvania Federation of Sportsmen's Clubs and headquartered at The Pennsylvania State University's Stone Valley Recreation Area, four groups of 56 boys each spent two days of their two week adventure learning what is being done to improve fish and fishing in the state.

The first day their two day visit with Pennsylvania Fish Commission personnel found the boys in the classroom, learning what kind of fish are native to and are being stocked in Pennsylvania's waters as well as what new strains are being experimented with.

Following the classroom lectures and the slide programs the boys then toured the hatchery's grounds to see first hand what had been explained to them.

On a field trip the second day water testing techniques, and methods of checking stream flow were explained and shown, followed by a demonstration of shocking a stream to find out what kind and size fish were in it.

They also saw various kinds of stream improvement devices and, after an outdoor mid-day meal they rolled up their pant legs—or put on swim suits—and waded into Spruce Creek to build some.



REBUILDING a gabion, or stone filled wire basket, that had started to wash out was a project assigned to one group of the boys. They carried stones from the creek and from a nearby field to reinforce the downstream side of the structure.



HEAVE HO! A team of boys from this summer's Junior Conservation Camp strain to lift and carry an old utility pole into Spruce Creek where they built stream improvement devices. This pole was one of four they had to use to build a log deflector in the stream.



DIGGING A DITCH into which one end of the utility pole was placed was one of the first jobs assigned to a trio of the junior conservationists.



LEFT—FISH SHOCKING proved to be a crowd pleaser. Here C. W. Stoddart, Jr., director of the camp, and Del Graff, fishery biologist, demonstrate how to bring the fish out of the water with an electrical shocking unit. Most of the boys, who had never watched fish shocked before were surprised to see how many there were in this small stream.

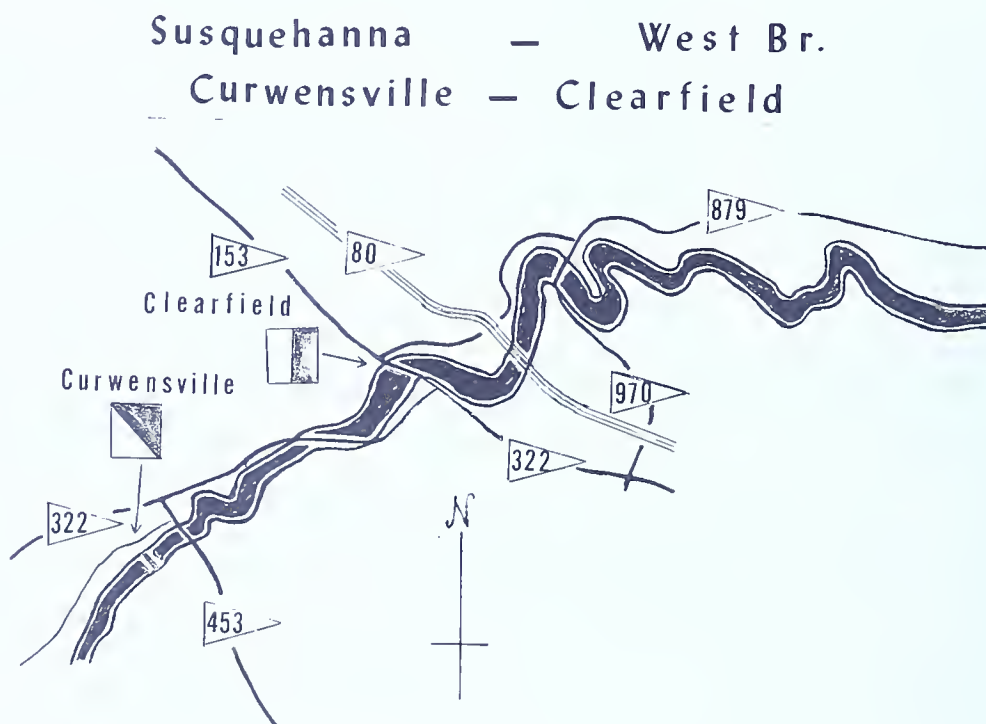
RIGHT—THAT'S HOW YOU DO IT! Del Graff, fishery biologist, took the group on a tour of Spruce Creek on which a variety of stream improvement devices had been built. Here they examine a stone deflector.



DIRECTORY OF PENNSYLVANIA MARINAS

ACCESS AREAS AND BOAT RENTAL FACILITIES

By ROBERT G. MILLER



Completion of the Curwensville Dam, plus facilities offered at Clearfield, offer two pleasure boating areas on the west branch of the Susquehanna River.

In addition, small craft owners have their choice of four state parks in the immediate area for fishing, bathing, picnics and camping.

The latter includes: Lyman Run, west of Galetton; Poe Valley, west of Millheim; Parker Dam, near Clearfield; and Black Moshannon, about midway between Bellefonte and Philipsburg.

The Curwensville Dam, a project of the U. S. Army Corps of Engineers, is a flood control facility covering 540 acres with about 720 acres leased to the Department of Forests and Waters.

Not located within the scope of the Curwensville-Clearfield sketch is another pleasure boating area near DuBois—Lake René—a private lake owned by John DuBois with a shoreline of about five miles. It can be reached via Rt. 322 out of Clearfield or, if you prefer a short cut, take Rt. 410 over Rockton Mt. which cuts the distance about half. The fee for using the lake is \$2.

The following is a thumbnail description of facilities offered at each of the areas:

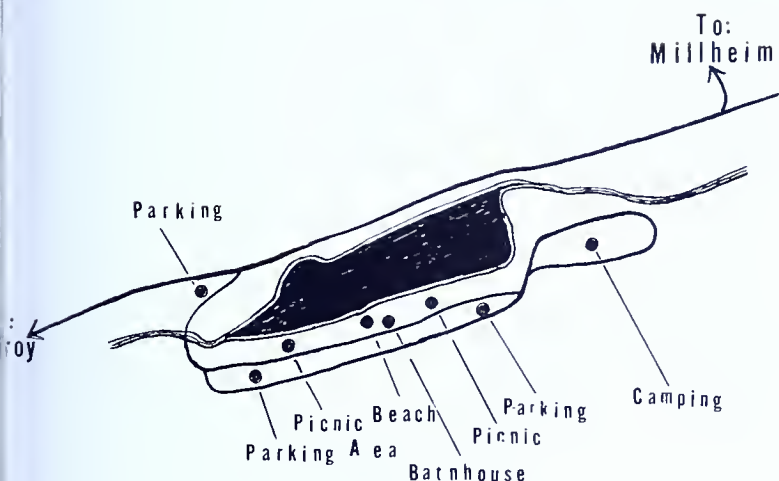


Clearfield—Ramp located at the foot of Locust Street with dock space provided by the Clearfield Boat Club and ample parking space. Gasoline and oil provided at river's edge by Bob Grimminger, owner and operator of Bob's Marina and Outdoor Shop, telephone 765-4362, plus a limited amount of bait for the fisherman. Pleasure craft owners have about a two mile stretch of water with no outboard restrictions. Fishermen note: plenty of catfish but the pickerel population, stocked by the Pennsylvania Fish Commission, appears to be on the up swing.



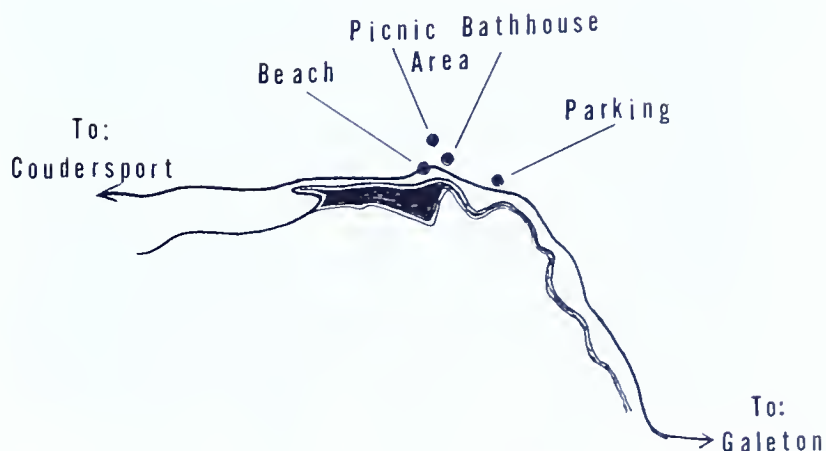
Curwensville Dam—Landing area at the end of the road leading to the property, ample parking space, picnic areas and sanitary facilities. No horsepower restrictions. At present this body of water provides about a seven mile stretch of water which is expected to be increased considerably when filled.

Poe Valley



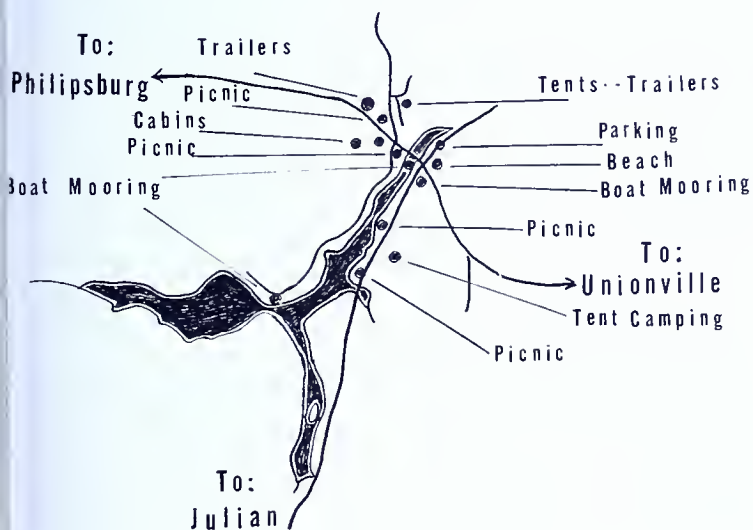
POE VALLEY—Another Centre County attraction, Poe Valley is located 13 miles east of Milroy and ten miles west of Millheim, on the Big Poe Road. Named for the poet, Edgar Allen Poe, the park provides boating, swimming, picnicking and camping facilities. Also a food concession. Water acreage—25.

Lyman Run



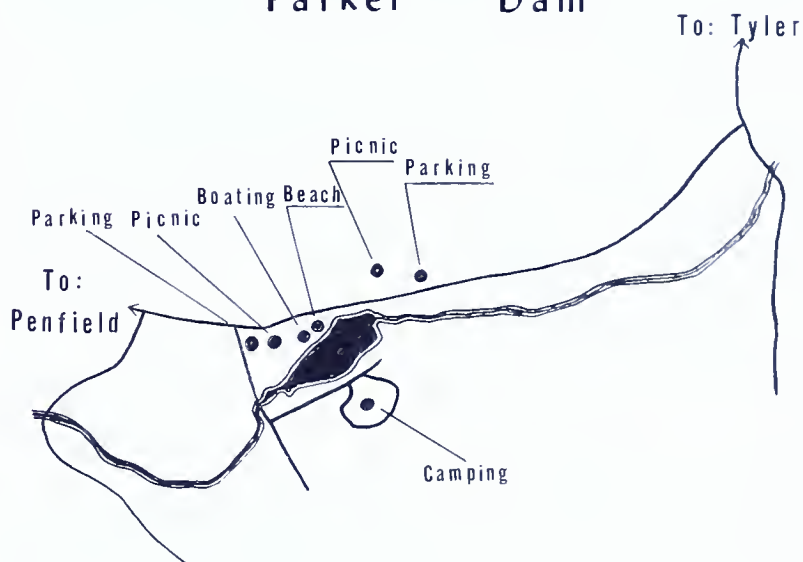
LYMAN RUN—This Potter County facility is 15 miles east of Coudersport and seven miles west of Galeton. Boating and fishing with a beach, picnic area, bathhouse and parking along the north side of the lake. Water acreage—45.

Black Moshannon



BLACK MOSHANNON—Located off Rt. 504, between Bellefonte and Philipsburg in Centre County, offers boat mooring areas, one off Rt. 504; boat rentals, cabins, organized group tenting area, trailer space, beach for bathing, and plenty of picnic sites. Water acreage—250.

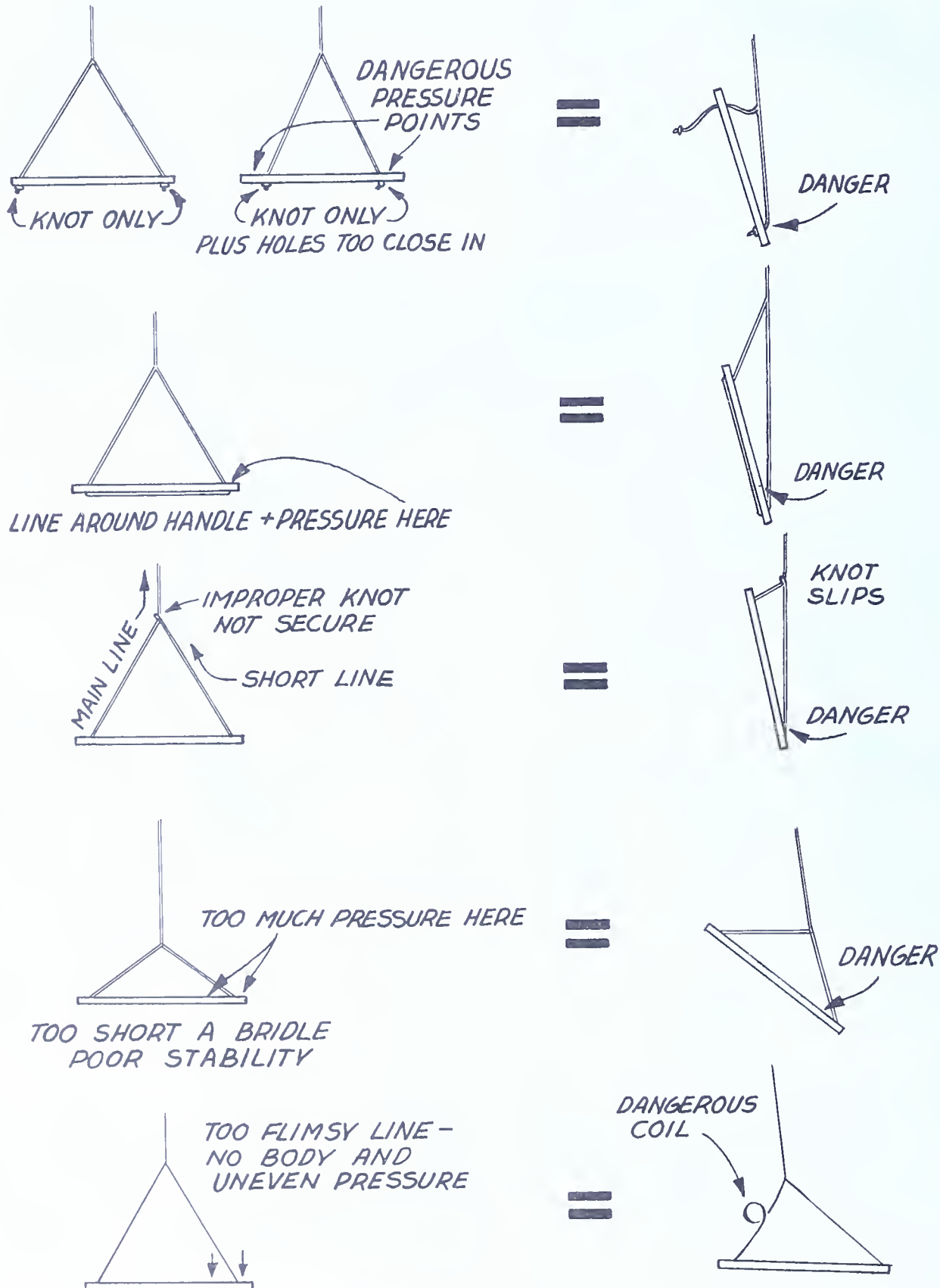
Parker Dam



PARKER DAM—Tucked away in the center of 525 acres of woodland is Parker Dam, Clearfield County, named for William Parker, a lumberman who built the original dam. Facilities include picnic areas, swimming, boating, family camp sites, fishing, hiking trails and cabins. North of Clearfield off Rt. 153. Water acreage—19.5.

Hot Handles

Painful injuries and even loss of fingers have been experienced by water skiers using tow handles that have not been properly attached to bridles and lines. Illustrated in these line drawings are some typical faulty assemblies that can result in trouble. Don't take a chance on any of these. Use a bridle that is approximately 12 inches from handle to line junction, and make sure the bridle can not slip at any point. For a safe method of assembling a tow handle and bridle, see "Competition Tow Lines, Splice by Splice," in the August-September, 1965, issue of The Water Skier, or contact William Clifford, American Water Ski Association, 7th Street and Avenue G, S. W., Lake May, Winter Haven, Florida.



MODERN CAMPING

By DEL and LOIS KERR

A CREAKING oarlock periodically broke the silence as we drifted with the pulsating current. Powder-puff clouds sent shadows sliding and tumbling down the Pennsylvania Appalachians on our right, skipping across the rippling stream and scurrying up the New York Catskills to our left. It was a perfect day, and our float trip down the beautiful Delaware River promised to provide a treasure-chest of memories.

It was the climax to an adventurous week at Twin Falls Camping Area, a private campground located on the Pennsylvania side of the Delaware River, near the little town of Hancock, New York. Owner Gray Runne had excited our curiosity by sending a short letter describing the area in general and especially the river trip.

Wayne County, just as much of Pennsylvania, contains some of the most beautiful scenery in the world. And the view from this high, northeastern campground is second to none: sweeping vistas of green-blue mountains; the silvery Delaware winding, twisting, gleaming far below—eye-catching beauty in all directions. The cascading waterfall leaping through the hemlock forest at the edge of the campground is an artists' dream.

We selected a campsite (there are forty-four to choose from) next to the small swimming pond. As in most Pennsylvania private campgrounds, hot showers and modern sanitary facilities are provided. Again, like many areas, a wide-variety of recreation is available. But to our knowledge, the campground's float trip is the only one of its kind in the state.

The morning of our scheduled excursion dawned with a hint of rain, but soon burnt off into blue skies. Gray Runne took us to the launch site just below Hancock around 10:00 A.M. There are four in our family—five including the collie—but we had plenty of room in the twelve-foot aluminum jonboat.

The only "power" aboard was a set of oars, which we intended to use as little as possible. Our speed would be governed by the alternating swiftness and laziness of the river and the changing breezes. Upon entering the Delaware, we found it shallow and fairly rapid with many V-shaped swirls indicating protruding rocks. But once into the current, the craft maneuvered easily around obstacles.

Our destination was Equinunk, some ten miles by road but farther by water. The river leaves civilization behind as it cut a zig-zagging path through the wilderness. We saw only a few lone farmhouses along the way. For the most part, it was wild, remote country with towering hemlocks, maples and oaks topping green hills on both sides.

Point Mountain, a small complete mountain range in itself (there is only one other like it in the world), brought the juncture with the East Branch of the Delaware and widened the river just a bit. We drifted and relaxed, drinking in the fantastic, marvelous scenery. Quiet. Peaceful. An occasional crow erupted, broadcasting a warning



AUTHOR'S pond-side camp site

of our presence. Gushing water blended with rustling leaves on the tree-lined shore to provide a constant, musical background.

Pike and bass lurked in deep pools. A resounding splash from a tail-walking acrobat drew our attention now and then. One torpedo-shaped shadow actually trailed the boat for a considerable distance. He turned back when the river bottom suddenly popped back into view.

Calm water turned into swift, white-capped rapids. The boat positioned easily and swept through with no difficulty. We encountered many similar rapids before reaching the half-way point—the ghost town of Stockport!

We beached the craft and strolled through the ruins of a once-prosperous logging town. Beautiful, rambling houses, the huge grist mill—all were abandoned and left to the ravages of nature. A century ago, Stockport was the departure point for gigantic log rafts which floated downstream to Philadelphia and the shipyards.

In those early days, there was no thought for conservation. Trees were dropped by the thousands. Deforestation eventually led to the lowering of the entire river, making rafting impossible and dealing a death blow to the town.

After a hardy lunch, we cast off once again. The second leg of our journey found more open water and fewer rapids, but was equally exciting. You can drift with the current, stop and fish the pools or take a refreshing dip in the cool water. This portion of the Delaware between Hancock and Equinunk is not a wild, thrashing river to be conquered by he-men. It is a stream that can be enjoyed by the average family.

Near five P.M. we passed the last of several islands, slipped through the final rapids and the white church steeple at Equinunk came into view. A phone call brought the campground pickup to the spot in short time.

Twin Falls Camping Area is a restful yet lively spot that should suit the camping taste of everyone. The address is Winterdale Road, Penna. Side, Hancock, New York.

FLOAT FISHING THE ALLEGHENY RIVER

By EDWIN ATTS

EACH summer and fall hundreds of anglers fish the Allegheny River for smallmouth bass, walleye, and several other species of game fish. Most of these people fish from shore, but there are a few who have discovered the thrills of float fishing.

Float fishing is one of the simplest and most relaxing forms of fishing there is. One merely puts his boat in the water and floats along with the current. He never needs to fish the same area twice unless he hits a "hot spot" and decides to anchor or run up through the eddy and drift down again.

Float trips can be as long or as short as one has time to make them. I have made trips of less than a mile that only took an hour or two. On the other hand I have been on trips of thirty to forty miles that took as long as four or five days.

Crafts for float fishing can vary but on the Allegheny only small crafts can be used. I prefer a 12 foot aluminum flat bottom to any other boat I have tried, but the canoe or regular shaped boat are also satisfactory.

The Allegheny can be floated from just south of the new Kinzua Dam to East Brady where the slack water starts. At numerous sites along this route the Pennsylvania Fish Commission has established launching sites, but there are many other places where a light boat can be put in or taken out of the water.

During the summer months when the water level is low it is only possible to fish ten miles of water a day and do it right. On days when there is a strong upstream wind it is nearly impossible to cover any distance at all and it is even hard to row against it. For these days a 3 or 5 horsepower motor is nice to have along.

While one will be able to fish from his boat most of the time, there are some places where it is best to beach it and fish from shore. This is particularly true when one comes to the fast water of a riffle where game fish do most of their feeding. When in a boat one passes over this area so quickly that he only gets one or two casts, and the man on the oars might not get any if he is trying to keep the boat from hitting rocks.

When more than a one day trip is planned provisions for camping and cooking have to be carried. Unfortunately, good camp sites in Warren and Forest Counties are scarce. On most of the level land along the river cottages have been erected and elsewhere the hills drop straight down to the river, not leaving enough level land to pitch a tent.

Recently the Pennsylvania Fish Commission's northwest supervisor has announced a plan to purchase some of the islands and clear the dense brush away to make camp sites for float fishermen. This idea certainly appeals to this writer and before very many summers I hope this will become a reality.

South of Franklin there are only a few places where cottages have been built and more wooded campsites are available. While this shore line is all private property,

little of it is posted and camping fishermen can help to keep it this way by leaving no more signs of their presence than a few foot prints.

When making a float trip I always like to have one of our cars parked at the pick up point before the trip begins. When covering a long distance it is hard to judge the arrival time very close and I don't like to be pressured to be there just on the minute.

Tackle for float fishing is usually a spinning outfit and a selection of quarter ounce lures. I like to throw these out along side the boat and retrieve slowly while they are drifting along with the current. When fishing in this manner the lure is constantly being retrieved through different water and there is more chance it will be within striking distance of a hungry bass.

Walleye are mostly in the deep swift water and it takes jigs to get down to the depth where they do their feeding. Bouncing these along the bottom will usually result in some fine fish for the evening meal.

Lots of small bass can be caught on a float trip in July or August, but in the fall after the first frost, the fishing really gets good. A float trip during the latter part of September or early October will result in stringers of fish like one expects to get in Canada.

NEEDED — WIDER MARGINS OF APPROVAL

By GEORGE DODSON

Conservation can never be considered a finished job. All the evidence points toward longer and harder fights in the future to retain the ground already won, and certainly it will be no easy task to make further advances.

Continued growth of the cities in Pennsylvania means an increasing proportion of the population will have little first-hand contact with conservation. The complexities of modern living result in many matters which citizens think of as more important than clean streams, expanded recreational facilities and the preservation of Pennsylvania's outdoor heritage. And there will always be economic pressures to bypass long term aims of the conservationist, in favor of immediate financial rewards.

Even after admitting that the above statements are true, today's angler may still ask, "So what? Is there anything I can do about it?"

The answer is a subtle but nonetheless real activity for both the individual fisherman and his associations or local groups. It consists of seeking wider margins of approval for conservation measures, in public opinion as well as in the legislature. Those who believe in conservation must quit being satisfied with any gains which barely "squeak" through. For as the opposition forces gather strength, what is presently a narrow victory can soon turn into tomorrow's defeat.

Much of the current support for clean streams and similar projects is spread too thin. Working only for those parts of the conservation program which touch on one's personal interests simply will not be sufficient in the fu-

ture. Wars of this magnitude aren't won by deciding in which battles you will participate while avoiding the others.

Danger lies less in the relatively small number of active anti-conservationists than in the thousands who display little concern one way or the other. Why should lawmakers go all out for measures that seem to have only minor public opinion behind them, and far from complete organized support for any specific matter being considered?

Pennsylvania's anglers must cease being enthusiastic only about what is gained now, important as it may be. Looking ahead, the big question is: Are widening margins of approval giving reasonable assurance that bigger and better advances will be won tomorrow?

SIZE IS RELATIVE

By JIM HAYES

THE SAYING that "size is relative" was never more true than in fishing. Most fishermen dream of catching a big fish. But how big is big? A nine-inch rockbass is big. A 10-inch native brook trout is a beauty. A 21-inch pickerel is a big one. A 40-inch muskie is a whopper. In other words, big may be anything from nine to 40-inches.

How big is big? One day on Thorn Creek I met a young fellow about seven years old. When I asked if he was having any luck, he showed me an eight-inch brown trout.

"I caught it on a fly," he said. "A Royal Coachman. It's the first one I ever caught on a fly."

"That," I said truthfully, "is a very nice trout."

Then it occurred to me, the answer to this question of how big is a big fish. There are some things that can't be measured in terms of inches or pounds. A fish is as big, I conclude, as the thrill you get out of catching it.

The memory of my first trout is rather vague and hazy because I was only six years old, which was a long time ago. My dad drove me to a stream called Dunbar Creek. It was an overcast day of brief, light, intermittent showers. Everything was lush and green and the trees were very big. I remember how the sound of the stream roared in my ears, like listening in a seashell.

Dad cut a fishing pole, a limber piece of tree limb, and tied on the line to which was attached a cork bobber and a fish hook. He baited the hook with an angle-worm and tossed it into the pool.

I got several nibbles, but each time I jerked too quickly. Dad patiently rebaited the hook. After a time he left to go to the car to get our lunch. While he was gone the cork bobber jiggled and disappeared. I heaved and a silvery fish about six inches long arced through the air and landed flopping beside me in the grass.

When dad returned I was holding onto the fish, and believe me, at that moment that was the biggest trout in the whole world!

Another fish I'll always remember came from a little laurel-overhung brook called McIntyre Run in Fayette

County. The brook was, and probably still is, populated by stunted native brookies. I used to fish it a lot when I was in my early teens.

One day, in a root-tangled pool, I tied into a real lunker. That brookie measured out at a full seven inches, which is the size of the chubs I now use for bait when I'm working for a big brown trout. But from that stream it was a huge fish.

It takes all kinds to make a world, and my kind is the kind that likes either dry fly casting for native brook trout or fishing for big browns. My brookies average seven or eight inches, and I don't consider a brownie to be big until it tops the 21-inch mark. It's hard to say which kind of fishing I enjoy most. Size is relative.

Of course, a lot depends on the stream. I've taken brown trout up to four and a half pounds, but the only one I ever had mounted was a 19½-incher, far from the biggest. It came from the headwaters of the Hammersley Fork on the last day of the 1957 trout season. I was fishing for brook trout at the time. The locale of the catch made the trout worthy of gracing a plaque.

In Florida, we used to fish for bass in Butler Lake, which is located south of Tarpon Springs. We used to get into schools of largemouths averaging about four pounds apiece. On good days we might land a dozen or more of those bass, keeping one or two for supper. I have no particular remembrance of any of those fish.

The bass I'll always remember came from a little pothole lake here in Pennsylvania, only a half hour drive from home. I'd caught a lot of smaller bass in that pond, 10 to 12 inchers, nothing larger. The night that that 16-incher slammed into my black Jitterbug, and I finally slid him into my landing net, I felt as if I'd captured a world's record.

How big is a big fish? It depends on a lot of things—species, locale, tackle, prevailing sizes—but most of all it depends on the fisherman. A fish is as big as the thrill you get out of catching it. Size is only relative.



CHEMICAL WEED CONTROL

By TOM EGGLER
Staff Writer-Photographer



COVERED POND—covered with trouble that is, at least so far as being able to net fish from it. Keen Buss, director of research and fish management at Benner Springs examines a pond in which a weed control chemical will be tried.



A CLEAN POND is a lot easier to use a net in than one full of weed growth. Here Mike Cox, and Richard Ginter, both students at The Pennsylvania State University and temporary summer employees at Benner Springs spread a net in a pond which was chemically treated only a few days earlier.

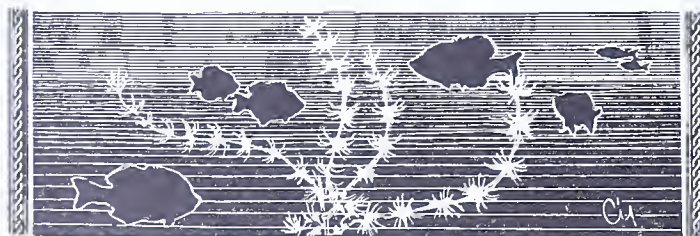
ANNUALLY one of the biggest headaches at fish hatcheries across the state is cleaning ponds and keeping them free of excessive plant growth.

In the past the problem has been, and for that matter still is, attacked each year by a crew of able bodied scythe wielders wading waist deep through the hatcheries' holding ponds.

With a chop, chop here and a chop, chop there they somehow manage to clean enough of the grass and weeds from the ponds so the fish may be netted, but the cost in manpower and money has forced researchers to look to chemical methods of removing this headache from the hatchery manager's list of yearly problems.

Research during the summer at the Pennsylvania Fish Commission's Benner Springs Research Station near Bellefonte indicates that chemical weed control may not be too far away.

Keen Buss, director of research and fish management at Benner Springs, states that certain chemicals were used this summer with an exceptional amount of success and that further tests of the same chemicals and slight variations of them are planned for next summer.





Notes FROM THE STREAMS

■ If you don't have time to go fishing, let the fish come to you. Such was the case with William Hertzler, who likes fishing, but was too busy to go out the first day of bass season. But he snarred a 15-inch bass two and one-half miles from the nearest body of water. He saw traffic near his service station dodging something in the middle of the road. Upon investigation he found the bass netted and in a plastic bag. The fish was still alive and flapping. How's that for a catch!—District Warden **PERRY HEATH** (Cumberland-Perry).

■ Natural reproduction of lake-run rainbow fingerlings exceeded all expectations in four feeder streams to Lake Erie this spring. The Erie County Council of Sportsmen's Clubs decided the best way to help these fingerling trout along was to start a cooperative trout nursery to help the fingerlings mature and then return them to the feeder streams. They obtained permission from the Fish Commission to take some of the fingerlings from these streams. The site for the nursery was inspected and approved by Robert Brown, the Commission's cooperative nursery coordinator. Ground was broken for the nursery, which is located on a tributary stream to Trout Run, on June 30. The club members hope to raise these fingerlings to about 7 inches by December and then open the gates and let the fish work their way into Lake Erie. The fish will be tagged to see if they will return to this stream to spawn when they mature. Sportsmen's clubs cooperating in this program are the Gem City Outdoorsmen's Club, the Erie County Sportsmen's League, Wesleyville Conservation Club and Trout Unlimited of Erie.—District Warden **NORMAN E. ELY** (Erie).

■ The weather was ideal and the fish stocked by the Pennsylvania Fish Commission cooperated to make the first annual fishing derby at the Bloomsburg Town Park Lagoon a huge success. Many prizes were awarded, and the parents who were present enjoyed the event as much as the youngsters. Plans are already underway to make the 1967 Derby an even bigger success.—District Warden **ROBERT J. PERRY** (Columbia, Montour, Northumberland).

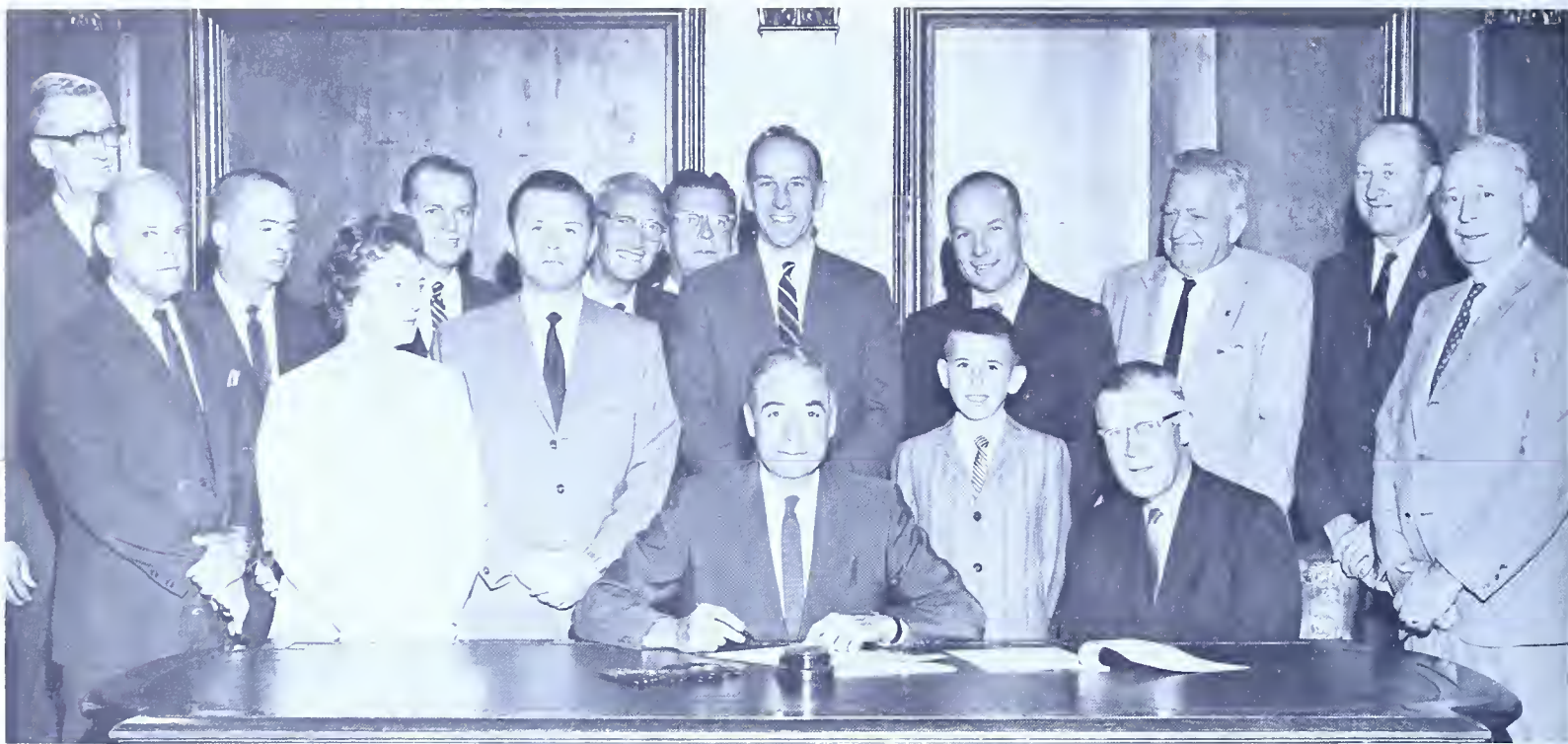
■ The third annual fishing contest sponsored by the Kittanning-Ford City Chamber of Commerce in cooperation with the Armstrong County League was held the week of June 18-25. The champion musky fisherman was Steve Valencic of Natrona, who has taken the first prize for the musky all three years.—District Warden **ANTHONY DISCAVAGE** (Armstrong).

■ While on motorboat patrol on Raystown Dam I saw an animal starting to swim across the dam. At first I thought it was a muskrat, but as I pulled alongside the animal, much to my surprise, it turned out to be a groundhog. The fact that the groundhog was swimming was not unusual, but it was 2:15 on a hot Sunday afternoon, and the motorboats and water skiers were whizzing all over the place and Mr. Woody was in the act of committing suicide. I escorted the groundhog across the dam to the other side and as he crawled up on the bank and shook himself, I'm sure I heard a rattling sound. Could it possibly have been the rocks in Woody's head?—District Warden **JAMES T. VALENTINE** (Huntingdon, Fulton).

Mr. Henry Masker, landing operator at Promised Land State Park called me to report that some fishermen were trying to catch some bait under the bridge at the outlet of the lake and all they could catch was small muskies or pickerel. With Mr. Masker's help we salvaged about 800 pickerel between 4 and 7 inches and released them in the lake. We certainly owe Mr. Masker a vote of thanks as the area that the fish were in would have been dry in a few weeks.—District Warden **JOSEPH E. BARTLEY** (Pike).

■ The Lehigh River between Treichlers and Easton has been producing excellent catches of largemouth bass, pickerel, catfish and panfish this year. However, the prize was taken June 25 by Andre Eaton of Allentown while fishing the Lehigh near the junction of Jordan Creek. He was fishing minnows and about 9 P. M. decided to quit. As he lifted his rod to reel in a fish struck and after a 25-minute battle, he had a male brown trout 29 inches long which weighed just under 9 pounds. Truly a citation fish from waters that are considerably overlooked for game fishing.—District Warden **STANLEY PAULAKOVICH** (Lehigh-Northampton).

■ A crew from the research division was working on Beechwood Lake recently. They had trap nets set and were gathering information on the age and growth rates of the fish and conducting a population census. When they finished lifting the nets on this particular morning the largest fish they had taken was 16 inches long. Two men and a boy came rowing into the area and the boy held up a stringer of fish and asked if we had caught any that big. After measuring and weighing the largest fish on his stringer we had to admit the boy beat us. He had taken a pickerel 23½ inches long which weighed over 3 pounds.—District Warden **RAYMOND HOOVER** (Tioga).



PROCLAMATION SIGNING—Gov. Scranton is shown at the signing of the "July is Clean Streams Month" Proclamation as members of the Sanitary Water Board and guests look on. They are (left to right): Robert L. Reiting, Pa. Society of Professional Engineers; Leonard Goodsell, Great Lakes Commission; William T. Evans, Pa. Section, American Water Works Association; Mrs. Lawrence Haner, League of Women Voters of Pa.; Walter Coin, Pa. State Chamber of Commerce; H. Bruce Gerber, Water Pollution Control Association of Pa.; Jock C. Sheffler, DuBois, Sanitary Water Board member; Arnold L. Edmonds, Pa. State Chamber of Commerce; John K. Tobor, State Secretary of Commerce; George Adams; Robert J. Bielo, Exec. Director, Pa. Fish Commission; Harvey Adams, Pa. Division, Izook Wolton League of America, Inc.; Rep. William F. Renwick, Chairman, House Game and Conservation Committee; Oscar A. Becker, Izook Wolton League of America, Inc.; and (seated) Dr. C. L. Wilbor, Jr., State Secretary of Health and Board Chairman.

land which is spring-fed. The area acquired will be used to enlarge the existing Reynoldsdale Hatchery and will be fully utilized in the Commission's trout program. Estimated acquisition cost is \$15,000.

Harris Pond, Luzerne County

The property contains approximately 225 acres, more or less, of land consisting of Harris Pond and surrounding grounds. The pond is located half-way between Sweet Valley and Pikes Creek and serves as headwaters of Roaring Run. Estimated acquisition cost is \$65,000. The area in all probability will be developed by the Commission.

Big Spring, Cumberland County (additional land)

Approximately 70 acres of land is being acquired along both sides of Big Spring Run located between property presently owned by the Commonwealth to a point near land owned by the Presbyterian Homes in North Newton and West Pennsboro Townships. The estimated acquisition cost is \$275,000. Land is being acquired for future fisheries development.

Piney Creek Spring, Blair County

200.2 acres, more or less, of land is being acquired in Woodbury Township along Piney Creek Spring for future fisheries development. Total acquisition cost is about \$90,000.

40 MILLION BOATMEN

An estimated 40 million people will take to the water this year, reports the Evinrude News Service. A large share of this total will be enjoying summer fun aboard an outboard power craft. Industry statistics show more than four and one half million outboard boats were in use in 1965.

PROJECT 70 PROGRAMS APPROVED

Listed by Glen Spencer, Chief
Real Estate Division
Pennsylvania Fish Commission

Ingham Springs Project, Bucks County

Ingham Springs consists of approximately sixty acres of land including a small lake and several springs located in Solebury Township. The estimated acquisition cost is \$175,000. The area can be reached by Pennsylvania Turnpike to Willow Grove Interchange. Getting off at the interchange, one proceeds north to Route 611 to Doylestown. From Doylestown go east towards New Hope on Route 202 about nine miles. Spring will be located on right side of Route 202. The Fish Commission anticipates developing the area.

Land Adjacent to Reynoldsdale Hatchery, Bedford County

About 12.75 acres of land consisting of a section along Springmeadow Run adjacent to the Commission's Reynoldsdale Hatchery in East St. Clair Township, Bedford County. This section of stream flows through meadow-



AT SPORTSMEN'S MEETING

State and local conditions and legislation affecting hunting and fishing and the sportsmen of Northeastern Pennsylvania was the subject of day-long business at a meeting of the Northeast (Pa.) Federation of Sportsmen's Clubs convening at Poco-North, just west of Hawley. The organization hopes to interest Pike County sportsmen in working with it on the local level and Northeast Federation Secretary Paul Balliet told the Pike-Wayne Eagle he hoped to enlist the assistance of Eagle columnist Alex Preutz of Rowland (an active member of the Hillview Rod & Gun Club) in promoting Pike County participation. Picture above, seated from left to right, are NE Treasurer Francis Heisler, NE Secretary Balliet, NE President Vincent Genario, NE Vice President James Price, and W. W. Singer, assistant to the executive director of the Pa. Fish Commission. Standing, from left, are Gene Shaw, publisher of the magazine "Outdoor People;" Steve Kish, conservation and education assistant with the Pa. Game Commission division office at Dallas; Past President Steve Emanuel of the State Federation of Sportsmen's Clubs; Gene Coleman, chairman of the committee on arrangements and Scranton Times outdoor editor; Glen Bowers, executive director of the Pa. Game Commission; Loring Cramer, president of the Pa. Game Commission; Leon Reed of Bethany, delegate from the Wayne County Sportsmen's Club and Chairman of the NE Federation's fish committee; Congressman William Bachman of Luzerne County; Pa. Sportsmen's Federation President John Laudadio who is also a member of the State House of Representatives active in sportsmen's affairs, from Westmoreland County; Regional Fish Warden Supervisor Clair Fleeger of Honesdale, and Assistant Regional Fish Warden Supervisor Walter Lazusky. Hawley's Pa. Fish Commissioner Gerard Adams, Sr. arrived at the meeting just after photo above was taken. (Pike-Wayne Eagle photo)

COMMANDER THARP NEW VP OF NE BOATING ADMINISTRATORS

Edward R. Tharp, in charge of the Watercraft Safety Division of the Pennsylvania Fish Commission, was elected vice-president of the Northeastern States Boating Administrators at their conference held in Connecticut. Tharp also participated in a panel discussion on boating in the future. Governor John Dempsey of Connecticut addressed the Conference and applauded the boating administrators for their efforts towards uniform, practical pleasure boating laws. As guests of the Coast Guard, the conferees were treated to an excursion aboard a buoy tender on the Thames River from New London to Long Island Sound.

COURTESY BOAT EXAM

The U. S. Coast Guard Auxiliary Courtesy Examination is safe boating insurance, advises the Evinrude News Service. The program is now underway at most launching ramps and marinas in the country. The examination, conducted by auxiliary members, is free.

CORRECT PORPOISING BOAT

Porpoising can often be eliminated by moving extra gear forward to add weight to the bow of the boat. If this doesn't correct the situation, check the vertical angle of the lower unit. Move it closer to the transom.

CHARGE BOAT BATTERY

Your boat battery, used to start your outboard motor and power electrical equipment aboard, should be checked periodically, reports the Evinrude News Service. Too many boatmen forget about the battery until the day when they turn the starter key and nothing happens.



Andrew Savadelis, Wyomissing, gets some pointers on fishing from Myles Witt, assistant regional warden supervisor, as Mrs. Carl Maier, Lincoln Park, looks on.

—photos by Jack Evans, Reading Times



Frank A. Kulikosky, Berks County fish warden, gets an assist from Joseph Stajkowski, deputy warden, as he stocks the Lake with 1,800 warm water fish.

* * *

To carry milk in your camping cooler, pour it into plastic jugs. Cardboard milk cartons often soak up water and the seals are loosened creating leakage.



A portion of the crowd that watched the stocking and fishing demonstration at Angelica Lake in Reading. The stocking was a joint effort of the Pennsylvania Fish Commission and the U. S. Bureau of Sport Fisheries and Wildlife to provide recreation for youngsters in metropolitan areas like Reading.

1966 Pennsylvania Angler Citation Awards

- George A. Wagner, Clarendon—37-inch, 20-lb. carp, Allegheny River, Warren Co.
 William H. Sunday, Lemoyne—46 $\frac{3}{4}$ -inch, 26 $\frac{3}{4}$ -lb. muskellunge, York Haven, York Co.
 Robert E. Hager, Cochran—30-inch, 10 $\frac{1}{2}$ -lb. walleye, French Creek, Crawford Co.
 Samuel Skomra, Nanty-Glo—26-inch, 7-lb. chain pickerel, Duman Lake, Cambria Co.
 Michael C. Balog, Conneaut Lake—48-inch, 34-lb. muskellunge, Conneaut Lake, Crawford Co.
 Robert E. Ludwig, Selinsgrove—21-inch, 4-lb., 11 oz. smallmouth bass, Susquehanna River, Northumberland Co.
 Robert E. Ludwig, Selinsgrove—21 $\frac{1}{2}$ -inch, 5-lb., 5-oz. smallmouth bass, Susquehanna River, Northumberland Co.
 Robert Jones, York—20-inch, 3-lb., 8-oz. smallmouth bass, Susquehanna River, York Co.
 Ross W. Sechrist, Red Lion—37-inch, 25-lb. carp., Susquehanna River, York Co.
 Jerry Jackson, Littlestown—11-inch, 1 $\frac{1}{2}$ -lb. rock bass, Silver Lake, York Co.
 Dr. Philip F. Ehrig, East Stroudsburg—27 $\frac{1}{4}$ -inch, 5-lb., 11-oz. chain pickerel, Forest Lake, Pike Co.
 Thomas Hill, Bangor—28 $\frac{1}{4}$ -inch, 6-lb., 5-oz. chain pickerel, Fairview Lake, Pike Co.
 Larry Ensminger, Huntingdon—16 $\frac{3}{4}$ -inch, 1 $\frac{3}{4}$ -lb. crappie, Jim's Anchorage, Huntingdon Co.
 Joe Davis, Erie—14-inch, 1-lb., 5-oz. yellow perch, Presque Isle Bay, Erie Co.
 Frank H. Ziegler, Jermy—21-inch, 5 $\frac{3}{4}$ -lb. smallmouth bass, Duck Harbor Lake, Wayne Co.
 Bobby E. Michaels, Shippensburg—31 $\frac{1}{4}$ -inch, 14 $\frac{1}{2}$ -lb. brown trout, Big Spring, Cumberland Co.
 Kenneth D. Asper, Shippensburg—17-inch, 2-lb., 2-oz. brown trout, Yellow Breeches, Cumberland Co.
 Fred M. Miller, Felton—21-inch, 4-lb., 8-oz. smallmouth bass, Conowingo Reservoir, York Co.
 George Saylor, Easton—18 $\frac{3}{4}$ -inch, 3 $\frac{1}{2}$ -lb. bullhead, Delaware River, Northampton Co.
 George Saylor, Easton—21-inch, 5-lb., 3 $\frac{1}{2}$ -oz. smallmouth bass, Delaware River, Northampton Co.
 Charley Stefancin, Easton—22-inch, 6-lb., 2-oz. smallmouth bass, Delaware River, Northampton Co.
 Ralph Starr, Littlestown—32-inch, 7 $\frac{1}{2}$ -lb. catfish, Wolfe Lake, Franklin Co.
 Scott R. Schiffert, Allentown—41-inch, 30-lb. carp, Albert's Rod & Gun Club Minehole, Lehigh Co.

ACTION AT BLOOMSBURG PARK ASSOCIATION FISHING DERBY

Bloomsburg Morning Press Photos



PRESIDENT of the park association, Lester Jones, on left, with District Warden Robert Perry, Pennsylvania Fish Commission. Warden Perry blew the whistle signaling the start of the derby.—Bloomsburg Morning Press photos



TANGLED LINES, frustration for all fishermen, caused some concern.

Richard Crist, Fairfield—38-inch, 24-lb. carp, Susquehanna River, York Co.
Edward Lubecki, Erie—14¾-inch, 1-lb., 4-oz. perch, Presque Isle Bay, Erie Co.
Francis Keen, Wilkes-Barre—34½-inch, 16-lb. lake trout, Harveys Lake, Luzerne Co.
Mrs. Pauline R. Leach, Clarks Summit—15½-inch, 1-lb., 8-oz. yellow perch, Walker Lake, Pike Co.
David C. Smith, Jr., Harrisburg—11½-inch, 1-lb. rock bass, Susquehanna River, Dauphin Co.
Albert Baginski, Easton—16¼-inch, 2¼-lb. bullhead, Delaware River, Northampton Co.
Albert Baginski, Easton—17¾-inch, 3½-lb. bullhead, Delaware River, Northampton Co.
Albert Baginski, Easton—16-inch, 2-lb. bullhead, Delaware River, Northampton Co.
Joe Lee, Farrell—21-inch, 5-lb., 7¼-oz. smallmouth bass, Pymatuning Dam, Crawford Co.



REGISTRATION at the affair was ably handled by Dr. Bruce Adams and Joseph Reedy.

Dominic Romania, Danville—26-inch, 5-lb. chain pickerel, Narrows Pond, Columbia Co.
Albert Kosmisky, Mahanay City—17½-inch, 2½-lb. brook trout, No. 6 Dam, Schuylkill Co.
Beth Ann Riker, Athens—22-inch, 4-lb., 4-oz. brook trout, Swago Lake, Wayne Co.
Larry Schartiger, Listonburg—15-inch yellow perch, Shawnee Lake, Bedford Co.
James H. Clause, Bethlehem—11½-inch, 7½-lb. rock bass, Delaware River, Northampton Co.
Paul D. Black, Polk—18¼-inch, 2¾-lb. brook trout, Wolf Creek, Mercer Co.
Kenneth C. Backo, Olyphant—14⅝-inch, 1-lb., 2-oz. yellow perch, Independent Lake, Wayne Co.
Gladys E. Smith, Bangor—30-inch, 12-lb. walleye, Delaware River, Northampton Co.
William R. Larison, Easton—21½-inch, 4-lb., 13-oz. smallmouth bass, Delaware River, Northampton Co.
Marjorie E. Bennett, Altoona—31-inch, 9½-lb. walleye, Raystown Dam, Huntingdon Co.
Kenneth D. Asper, Shippensburg—28-inch, 10¼-lb. brown trout, Letterkenny Reservoir, Franklin Co.
Burl B. McVicker, Confluence—20-inch, 3-lb., 13-oz. smallmouth bass, Youghiogheny Reservoir, Somerset Co.
George E. Price, Johnstown—37-inch, 14-lb. northern pike, Raystown Branch of Juniata River, Bedford Co.
Mrs. Dorothy Lewis, Allentown—30¼-inch, 9-lb., 12-oz. walleye, Lake Wallenpaupack, Pike Co.
Mrs. Lena Urbasik, Johnstown—13-inch, 1½-lb. rock bass, Raystown Branch of Juniata River, Bedford Co.
John H. Rhodes, Hershey—15-inch, 3-lb. rock bass, Swatara Creek, Dauphin Co.
Frank Corcione, Bethlehem—23-inch, 7-lb., 1-oz. smallmouth bass, Delaware River, Northampton Co.
Garry Vadella, Selinsgrove—11½-inch, 1-lb., 1-oz. rock bass, Susquehanna River, Northumberland Co.
Kenneth D. Asper, Shippensburg—28-inch, 9½-lb. brown trout, Yellow Breeches, Cumberland Co.
Francis J. Sayke, York—23-inch, 6-lb., 9-oz. largemouth bass, Susquehanna River, York Co.
Andre Eaton, Allentown—29-inch, 8-lb., 10-oz. brown trout, Lehigh River, Lehigh Co.
Albert A. Price, Pittsburgh—27-inch, 6½-lb. bullhead, Allegheny River Lock No. 3, Allegheny Co.
Paul Kalenevitch, Hummelstown—20½-inch, 4-lb., 2-oz. smallmouth bass, Susquehanna River, Dauphin Co.
Jack Barkley, Punxsutawney—22-inch, 4-lb., 13-oz. smallmouth bass, Cloe Dam, Jefferson Co.
Bruce Eshbach, Boyertown—15-5/16-inch, 1¾-lb. crappie, Bayertown Water Dam, Berks Co.
Charles Leeper, Acme—21-inch, 4-lb., 4-oz. smallmouth bass, Allegheny River, Forest Co.

DIRECTORY OF BLUE BOOK AGENTS

Additional places for subscribing to the **PENNSYLVANIA ANGLER** and where the latest and newest Pennsylvania Fish Commission **FISHING REPORTS** and **INSTANT INFORMATION** are available.

Allegheny County—Glenn's Sports and Hobby Shop, 4129 Brownsville Road, Pittsburgh, Penna.

Berks County—Kagen's Inc., Reading, Penna.

Blair County—George W. Jackson

Bucks County—Andrew Maroney—Andy's Sport & Hobby Shop, Yardley, Penna.

Cambria County—Shoff Sporting Goods, Ebensburg, Penna.

Chester County—Daniel W. Bullock, Berwyn, Penna.

Franklin County—P. Paul Overcash, Chambersburg, Penna.

Jefferson County—Deman's Sporting Goods, Brookville, Penna.

Lackawanna County—Eynon Drug, Eynon, Penna.

Lackawanna County—Edward Rebar, Throop, Penna.

Lebanon County—Joseph Waybright, Box 121-A, Annville, Pa.

Lehigh County—Gerald T. Chapleski, Allentown, Penna.

Lehigh County—Paul Daubanspeck, Allentown, Penna.

Lehigh County—Pete Nestor, Nestor's Sporting Goods, Inc., Allentown, Penna.

Montgomery County—Sidney Conrad, 13 Woodland Drive, Lansdale, Pa.

Northampton County—Charles Schwartz, Bethlehem, Penna.

Schuylkill County—Joseph Kopena, Mary-D, Penna.

Schuylkill County—James M. Hill, New Philadelphia, Pa.

Warren County—F. J. Erich Sporting Goods Store, Irvine, Penna.

York County—Harry Haines, Lincoln Highway Garage, York, Penna.

York County—Squab's Outdoor Shop, York, Penna.



Eleven-year-old Bruce Bruzda of South Greensburg and the whopper northern pike he took from St. Vincent Lake in Westmoreland County. Bruce took his 38-inch prize on a worm.

FREE COLOR CHART COMMON FISHES OF PENNSYLVANIA WITH ALL NEW AND RENEWAL SUBSCRIPTIONS TO *Pennsylvania Angler*

Enclosed is \$..... for my (New) (Renewal)
(Gift Subscription)

1 year (12 issues) \$2.00

3 years (36 issues) \$5.00

Please send to:

Name

Address

Town Zip Code

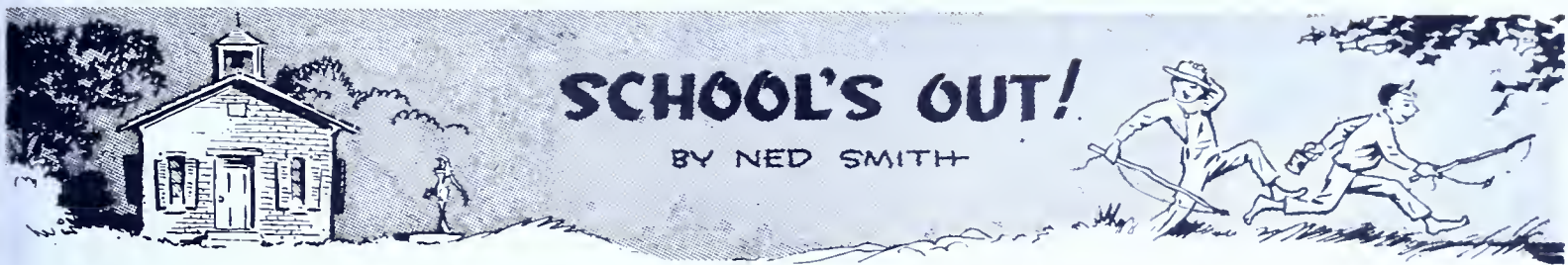
Make check or money order payable to the Pennsylvania
Fish Commission

Mail to—PENNSYLVANIA FISH COMMISSION
HARRISBURG, PA.

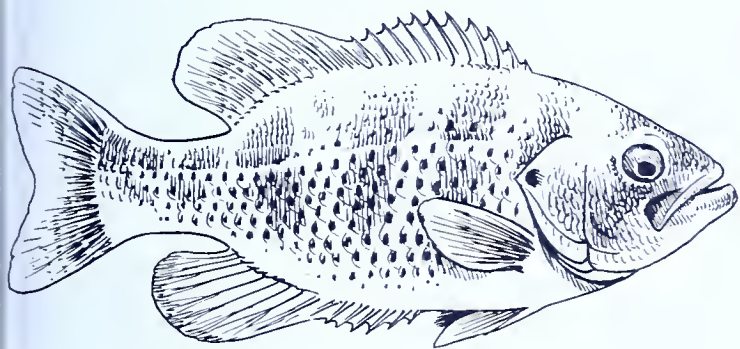
Cash sent at your own risk. STAMPS NOT ACCEPTABLE.



"Gonna hafta get a longer chain on that little ol' anchor, Ed!"



EVER CATCH A GOGGLE-EYE?



FISHING for some of our smaller fish can be great fun if you'll use light tackle, and the rock bass, or goggle-eye, is a good one to start with. It is usually six or seven inches in length, but an occasional ten-incher is caught. Anything bigger is a monster.

The rock bass is shaped midway between a bass and a sunfish, or bluegill, with a mouth that reaches the middle of the eye when closed. It is usually olive or brown on top with brassy sides, and is generally marked with darker blotches or irregular bands. There's a small dark dot on each scale on the sides of the body, and its eyes are red. To be sure of its identity count the sharp spines on the anal fin (the one at the rear of its belly). If they number six, it's a rock bass.

The goggle-eye is common in most Pennsylvania rivers, creeks, and some of our colder lakes. It likes rocky holes and undercut rock ledges. Sunken logs and stumps often attract these fish.

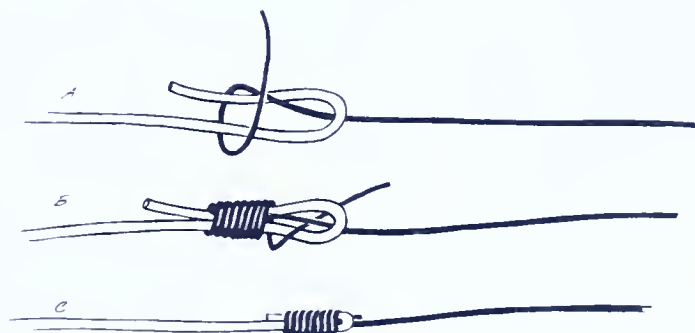
Rock bass feed on hellgrammites, dragon-fly nymphs, and other aquatic insects, small crayfish, minnows, and grasshoppers and other insects that fall into the water. They are easily caught by using these creatures as natural bait, but it's more of a challenge to fool them with artificial lures. They'll often hit bass plugs, especially from dusk to after dark, but when hooked on a large plug they usually give up at once and let you reel them in without a fight. On tiny plugs, spoons, and spinners tossed with a light or ultra-light spinning outfit they are much scrappier. For the *most* fun, try a fly rod—your trout fishing outfit will do nicely. Experiment with dry flies, wet flies, nymphs, streamers, small hair bugs, and small popping bugs, until you learn which type brings the most strikes. At times they'll hit any color, but red and white seems to be one of the best combinations.



When using small surface plugs or bugs don't work them too fast. Rock bass are often timid about striking, and wait until the lure has been lying quietly on the surface for a while before flying into it.

Goggle-eyes may be held by the lower jaw for unhooking—they'll not wiggle a fin when held in this manner. Or you can slide your hand down over the head to stroke down the sharp fin spines, then hold them firmly, but gently, around the body.

These fish are fine eating, so take good care of your catch. Keep them cool and clean them as soon as possible. Skinning will improve the flavor.



A HANDY KNOT

Everyone knows it's hard to tie a thin piece of monofilament to a thick one. Here's a knot that makes it easy.

Double the end of the thick piece. Pass the end of the thin piece up through the loop, then, holding it in place, wrap the thin end around the loop seven or eight times, winding toward the right and keeping the wraps tight and close together. Tuck the end down through the loop.

Now, carefully snug up the knot, pulling first on the short end of the thin monofilament, then on the long end. Finally pull on both thin and thick sections until tight, and cut off the short ends at the knot.

"WHY MUST YOU
ALWAYS MAKE A BIG
DEAL OUT OF MY
QUEST



FOR A
PENNSYLVANIA ANGLER

Fishing Citation

MINIMUM CITATION SIZES:

Species of Fish	Minimum Length in Inches	Species of Fish	Minimum Length in Inches	Species of Fish	Minimum Length in Inches
American Shad	25 in.	Catfish	30 in.	Northern Pike	36 in.
Bluegill	11 in.	Crappies (includes black and white)	15 in.	Rainbow Trout	27 in.
Brook Trout	17 in.	Eel	40 in.	Rock Bass	11 in.
Brown Trout	28 in.	Fallfish	18 in.	Sheepshead	25 in.
Bullhead	15 in.	Lake Trout	30 in.	Smallmouth Bass	20 in.
Carp	36 in.	Largemouth Bass	23 in.	Walleye	30 in.
Chain Pickerel	25 in.	Muskellunge	45 in.	Yellow Perch	14 in.

RULES:

Fish must be caught in Pennsylvania public waters by legal methods during seasons open for the taking of the species involved.

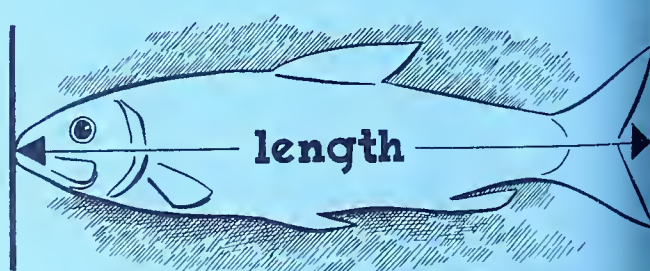
Fish must be measured, weighed and recorded by fishing license issuing agent or tackle store within the state by the owner, manager, or an authorized agent of the respective establishment.

Photographs are desirable as further proof of catch but are not required.

Non-residents as well as residents are eligible for citations if fish are caught under the above conditions.

Only fishing citation applications received within 90 days from date of catch will be honored.

HOW TO MEASURE:



APPLICATION FOR PENNSYLVANIA ANGLER FISHING CITATION

The Editor—Pennsylvania Angler
Pennsylvania Fish Commission, Harrisburg, Pa.

Date.....

Please send me the Pennsylvania Angler Magazine's Fishing Citation with the inscribed data listed below:

Name (please print)

Address City..... State.....

Species Length Weight

Type of Tackle

Bait or Lure Used

Where Caught.....in.....County

Date Caught Catch Witnessed by

Measured and Weighed by

At

38.31
1.6

Pennsylvania Angler

PENNSYLVANIA

LIBRARY

NOV 2

19

OCTOBER 1966



**PENNSYLVANIA
FISH COMMISSION
DIRECTORY**

EXECUTIVE OFFICE

ROBERT J. BIELO
Executive Director

GORDON TREMBLEY
Assistant Executive Director

EDWARD R. THARP
Assistant Executive Director
Watercraft Safety

WARREN W. SINGER
Assistant to Executive Director

PAUL F. O'BRIEN
Administrative Officer

JOHN M. SMITH
Comptroller



DIVISION DIRECTORS

KEEN BUSS
Research and Fish Management
R. D. 1—Box 200-C
Bellefonte, Pa.—16823

HOWARD L. FOX
Propagation and Distribution
Bellefonte, Pa., R. D. 3—16823

GLEN SPENCER
Real Estate
Harrisburg

EDWARD MILLER
Engineering
Bellefonte, Pa., R. D. 3—16823

WILLIAM W. BRITTON
Law Enforcement
Harrisburg

ARTHUR BRADFORD
Pathology
Bellefonte, Pa., R. D. 1—Box 200-C
16823

GEORGE FORREST
Public Relations
Editor
Harrisburg

TOM EGGLE
Staff Writer-Photographer



REGION ONE

S. CARLYLE SHELDON Warden Supervisor
Tionesta 16353 Phone: 814-755-8811

REGION TWO

JOHN I. BUCK Warden Supervisor
R. D. 2, Somerset, Pa. Phone: 814-445-4913

REGION THREE

CLAIR FLEEGER Warden Supervisor
351 Terrace St., Honesdale, Pa.,
Phone: 717-253-3724

REGION FOUR

HAROLD CORBIN Warden Supervisor
R. D. 2, Annville, Pa.,
Phone: 717-273-2601, Ex. 86
I. G. M. R. 17003

Pennsylvania Angler

Published Monthly by the

PENNSYLVANIA FISH COMMISSION
COMMONWEALTH OF PENNSYLVANIA

William W. Scranton, Governor



PENNSYLVANIA FISH COMMISSION

GERARD J. ADAMS, President Hawley
WALLACE C. DEAN, Vice President Meadville

JOSEPH M. CRITCHFIELD Confluence

JOHN W. GRENOBLE Carlisle

HOWARD R. HEINY Williamsport

RAYMOND M. WILLIAMS East Bangor

DOUGLAS McWILLIAMS Bear Gap

ROBERT M. RANKIN Galeton

R. STANLEY SMITH Waynesburg

.....East Bangor



OCTOBER, 1966

VOL. 35, NO. 10

Contents

- 1 ONCE UPON A TIME—Keen Buss
- 4 FABULOUS FALL FISHING—Don Shiner
- 6 WALTON'S OTHER SIDE—Bill Walsh
- 8 THE APPALACHIAN TRAIL—Wilbert Nathan Savage
- 10 LAKE PLEASANT RAINBOWS—Marshal Young
- 12 FISH COMMISSION RECLAIMS A WATERSHED—Tom Eggler
- 14 SCUBA STOCKING SILVER SALMON—Tom Eggler
- 16 STOCKING PLANS START EARLY
- 17 FISH BY THE BAGFUL—Tom Eggler
- 18 BOATING with Robert G. Miller
- 20 CONSERVATION EDUCATION IN THE ACTION STAGE—Hank Rosen
- 21 MODERN CAMPING—Del and Lois Kerr
- 22 PENNSYLVANIA FISH COMMISSION ELECTS NEW OFFICERS
- 23 NOTES FROM THE STREAMS
- 28 TIP-O-THE MONTH—C. Boyd Pfeiffer
- 29 SCHOOL'S OUT—Ned Smith

Cover art by Ned Smith

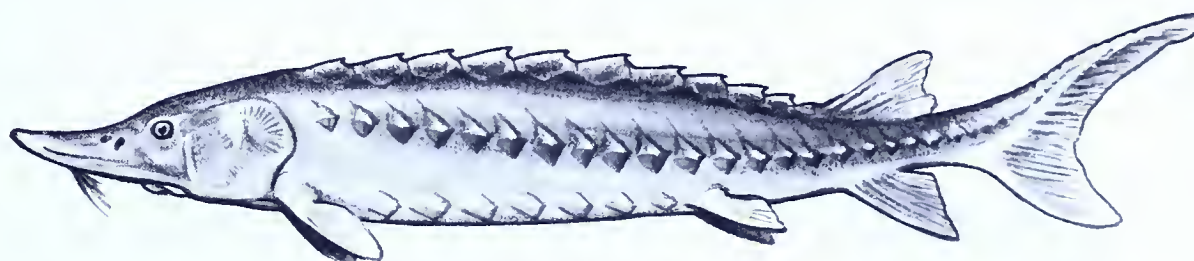
POSTMASTER: All 3579 forms to be returned to Dunlap Printing Co., Inc., Cherry and Juniper Sts., Philadelphia, Pa. 19107.

The PENNSYLVANIA ANGLER is published monthly by the Pennsylvania Fish Commission, South Office Building, Harrisburg, Pa. Subscription: One year—\$2.00; three years—\$5.00; 25 cents per single copy. Send check or money order payable to Pennsylvania Fish Commission. DO NOT SEND STAMPS. Individuals sending cash do so at their own risk. Change of address should reach us promptly. Furnish both old and new addresses. Second Class Postage paid at Harrisburg, Pa. Neither Publisher nor Editor will assume responsibility for unsolicited manuscripts or illustrations while in their possession or in transit. Permission to reprint will be given provided we receive marked copies and credit is given material or illustrations. Communications pertaining to manuscripts, material or illustrations should be addressed to the Pennsylvania Fish Commission, Harrisburg, Pa. NOTICE: Subscriptions received and processed the 10th of each month will begin with the second month following.

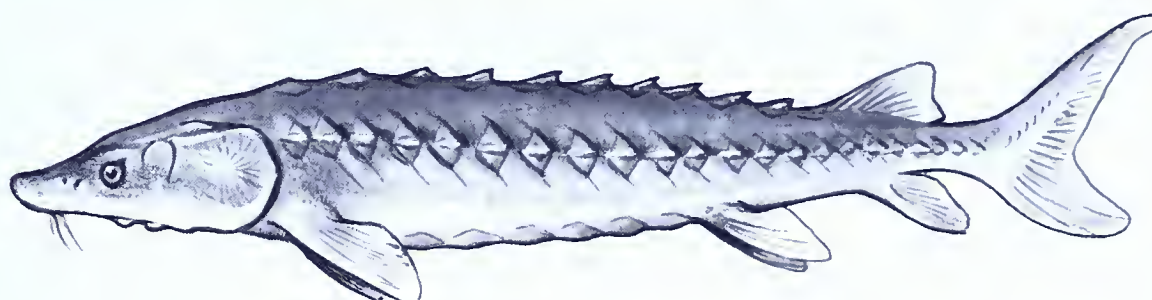
Once Upon A Time



LAKE STURGEON *Acipenser fulvescens*



ATLANTIC STURGEON *Acipenser oxyrinchus*



SHORTNOSE STURGEON *Acipenser brevirostrum*

By **KEEN BUSS**—Director
Research and Fish Management
Pennsylvania Fish Commission

"Once upon a time" sounds like it might be an introduction to a fairy tale based on a plot of the Middle Ages. However, in this case, the introduction is not meant to be so trite. This tale, as true as if it were hanging on a dog, is founded on a catastrophic event of over 200,000 million years ago—the origin of the boney fishes. The sturgeon, gar, and bowfin are the heroes of this narrative.

THE STURGEON

The sturgeon evolved in the Paleozoic Age over 200-400 million years ago. The gar, which is also a primitive fish, does not go back as far in time but has its origin about 60 million years ago. The bowfin, which appeared soon afterward as geological time is measured, had a few refinements in its skeletal characters—or should we have said "changes in the skeleton in the family closet"? These early fishes are progenitors of the modern fishes and therein lies the tale since many species are still with us and can

be examined and studied. This is where reality must begin.

The sturgeon's history with man has been rather unpleasant. Before 1850 they were very numerous, and it was not known that both flesh and eggs were fit for human consumption. Because they were a nuisance in the nets they were thrown on the beaches by the tons and left to rot. By the time the humans became aware of the value of these species the sturgeon had become relatively scarce.

The future does not look near as bright as does the past. The males of this long-lived, slow-growing fish do not mature until they are 12-19 years old. The females mature even later, sometimes as late as 23 years.

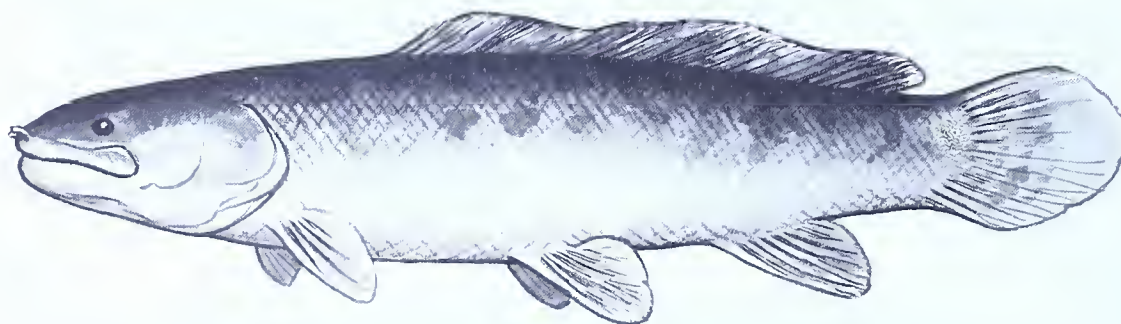
The lake sturgeon, for example, grows very slowly. A ten-year old fish may be only 36 inches long; a 49 year-old fish may be 72 inches and weigh over 100 pounds. Sturgeon of this species have been reported up to 300 pounds in weight. One 208 pounder taken in Canada in 1953 was 152 years old. In other words, this fish was hatched in 1801 when Thomas Jefferson was President!

Sturgeon spawn in the early spring, navigating the rivers to deposit their eggs. Strangely enough, the sturgeon do not spawn every year as do most other fishes; females spawn only every four to seven years. This must be a long wait for the males, but the wait must be worth it because the female will deposit about 5,000 eggs for

every pound she weighs. A 300-pound female will produce about 1,500,000 eggs for the male to fertilize or in human terms approximately 60 pounds of caviar.

The size of the food of these fish does not seem to be commensurate with their size. Their nourishment is obtained from small bottom-dwelling plants and animals such as algae, stonefly larvae, dragon fly nymphs, and crustaceans.

There are three species of sturgeons in Pennsylvania: the lake sturgeon in Lake Erie, and the Atlantic and shortnose in the Delaware River Basin. All are characterized by armorlike, bony plates or scales which partially cover the body. The mouth is on the underside of the head and has four fleshy barbels before it. The upper lobe of the tail is longer than the lower and it has the vertebral column following through it.



BOWFIN *Amia calva*

THE BOWFIN

Like the gars and the sturgeons, the bowfin is a living fossil, and is the sole representative of an ancient family now extinct and known only as fossils in the rocks of Europe and the United States.

Bowfin spawn in weedy bays in May and June. Even though they are a primitive fish, the nest-building instinct is developed and a crude saucer-shaped nest is built by the male. The male guards the nest, aerates the nest with fin movement, and shepherds the young after they swim up.

The bowfin is a carnivorous fish, feeding heavily on other fishes, and is considered by many to be a destructive fish. However, this tendency to feed heavily on fish may be adopted to good use to aid in balancing the fish populations in lakes. Fortunately, these fish are very sporting as angling fish and much satisfaction can be gained by catching them on rod and reel.

Two lakes in Pennsylvania at the head of polluted watersheds have been stocked with bowfin. These are Somerset Lake and Black Moshannon Lake. The original introduction in Somerset Lake was in 1961. In the spring of 1965, a net check was made of this lake and a very good population of game and panfish was found. The bowfin may not have been responsible for the balanced

population, but they didn't "eat up" all the other fish either.

Unfortunately, the flesh of the bowfin is soft and unpalatable, but they are very gamey and strike viciously at all types of live bait. To increase their attractiveness, they will reach weights of 8 or 9 pounds.

In addition to functioning gills which remove oxygen from water, the bowfin and the gar are also capable of breathing air since the air bladder is more complex than higher fishes and is a rudimentary structure resembling the lungs of higher vertebrates. Bowfin can be kept out of water for a day in cool temperatures and not suffer any adverse effects.

The gars are covered with small, hard, enameled scales arranged in an oblique fashion.

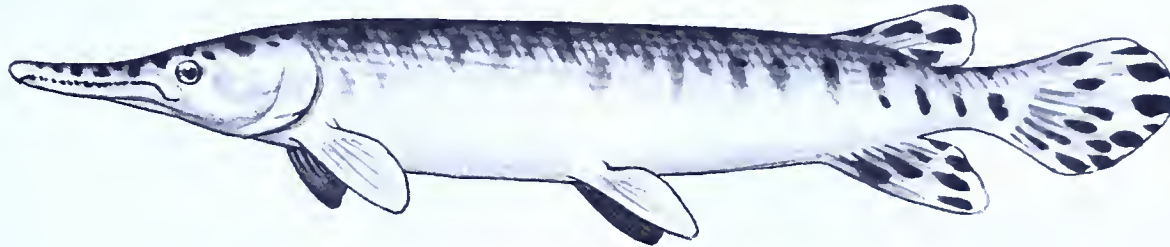
The body of the bowfin is olive above with lighter green on the sides. The males have a black spot edged with yellow on the tail fin. Females have plain spots or no spots on the caudal fins.

Identifying characters:

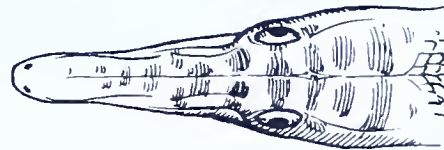
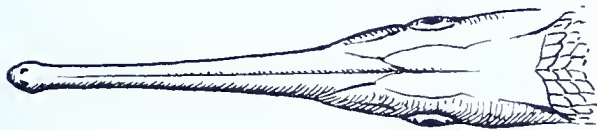
1. A pair of short nasal barbels.
2. Tail uneven with upper half slightly longer.
3. Dorsal fin low and long.



LONGNOSE GAR *Lepisosteus osseus*



SPOTTED GAR *Lepisosteus oculatus*



LONGNOSE GAR (dorsal view of head) SPOTTED GAR

THE GAR

The longnose gar and the spotted gar are the two species of the gars found in Pennsylvania. Both the longnose and spotted gar are found in Lake Erie, but only the longnose is found inland in Conneaut Lake and the Allegheny River drainage.

The gar are not well-known for any particular virtue as are the sturgeon for caviar, but their contribution to good fishing may be more real than apparent. The gar are very voracious and a large part of their diet consists of small fishes. Since they are very difficult to take by angling, these predators which exist in good numbers where they are found may be valuable in keeping our fishing waters in balance. Even though gar have been highly condemned for eating fish which would be available to other game fish, it is interesting to note that one of the best balanced fish populations in the Commonwealth is in Conneaut Lake—the only inland lake which gar inhabit in the state. This may be coincidental, but it could be very significant.

Gar spawn in the late spring or early summer when they appear in large schools in the spawning areas. As many as 200 have been seen depositing eggs in 36 square feet. This is the period when they are most vulnerable to the onslaughts of man. Spears, seines, gill nets, and pound nets have often been used to attempt to decimate the population. More recent knowledge has caused us to stop and reassess these practices. Perhaps we have "cut off our noses to spite our faces."

The eggs of the gar are small in size and dark in color; in contrast to sturgeon eggs, they are poisonous to humans and other mammals.

The longnose gar are relatively long-lived and ages up to 22 years have been reported. At the Bellefonte hatchery eggs taken experimentally in 1951 were hatched and the

resulting young kept in an aquarium for 13 years. Females of the longnose gar have been reported up to 53 inches in length. The males do not grow as large.

It is a wonder of nature how fish with such long, beak-like jaws can manage to survive over eons of time. It makes one nervous to watch a gar catch a fish in its needle-like bill and then struggle for a lengthy period to turn it so that it can be swallowed head first. A sigh of relief would be appropriate as the minnow disappears down the gullet of the gar.

In spite of man, the gar remains with us. It is hoped that someday in the future we can say BECAUSE of man, the gar is with us.

Longnose Gar *Lepisosteus osseus*

The color ranges from light green on the sides to dark green above. There are round, black spots on the dorsal and caudal fins.

Identifying characters:

1. The narrow, bill-like snout is twice as long as the remainder of the head.

(Insert shows dorsal view of head)

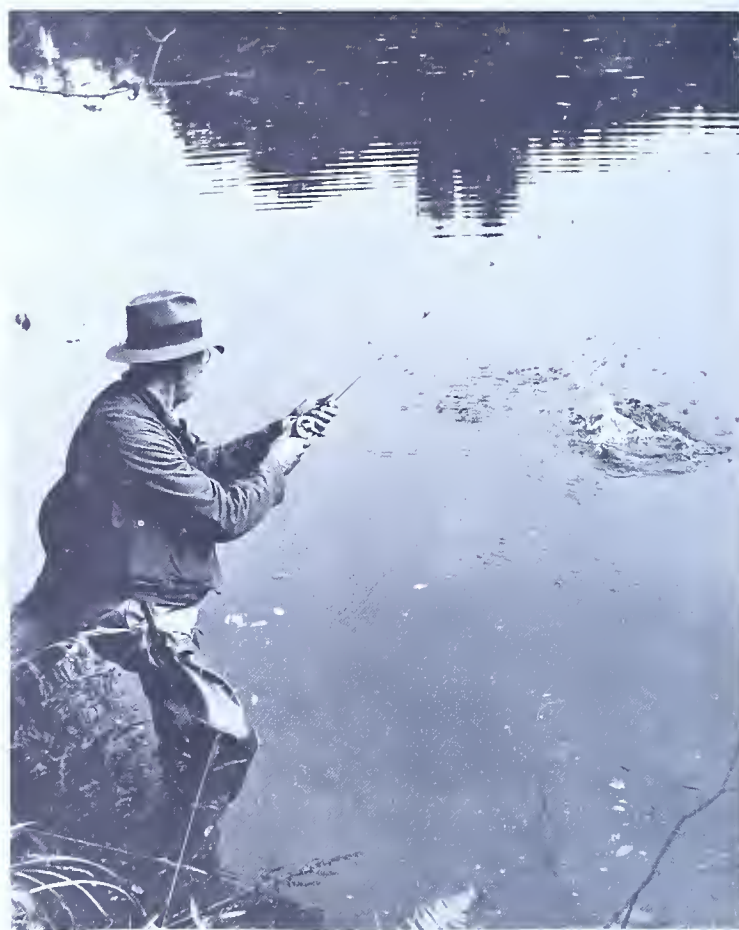
Spotted Gar *Lepisosteus oculatus*

This species is often mistaken for a shortnose gar which it closely resembles, but differs in the width of snout. It is dark olive green above and densely blotchy and spotted. The mottling is more distinct than that of the longnose.

Identifying characters:

1. Beak is short and broad, being approximately one and one-half times length of head.

Fabulous Fall Fishing



WHEN autumn tints the deciduous forests with a rainbow of color, pick up your fishing rod, a spoon lure or two and visit a favorite pond. Give chain pickerel a whirl. After loafing during weeks of hot weather and exhibiting an indifference toward food, pickerel now go on a feeding binge. They're spoiling to do battle with baits. As one old timer candidly put it, pickerel are fighting fools in the fall. Here's why.

Frosty weather withers aquatic vegetation. Frogs and minnows, spawned early in the summer, now have no place to hide. This coincides with cooler water temperatures which bring pickerel back into the shallows. It's a perfect set-up for pickerel to go on a feeding spree, in preparation for the lean months of winter. These predaceous fish don't mind much what baits they chase. Almost anything that swims, and passes within viewing range, is fair game. This makes for wonderful fishing.

A generation ago, skittering live baits with long cane poles were in vogue. This method dropped many a fat pickerel on the boat floor. Then came the mid-20th Century and spinning. If old timers thought they knew how to string a pickerel on a live chain (and they did) they should observe the modern spin-rod swingers. This latest generation is hauling pickerel from ponds as though they were supermarkets. The fixed-spool reel and rod are partly responsible. Equally so are the infinite number of spoon lures now available at low cost to fishermen. Today, pickerel, spinning and spoons go together like coffee, cream and sugar. They're an unbeatable combination.

Eastern chain pickerel are found in eastern Canada, east of the Appalachians and south to Florida, with some found also in the Mississippi Valley west to Texas. For the most part, this geographic picture puts Pennsylvania smack in the center of some of the best pickerel fishing found in the U. S. In this region, pickerel favor shallow, quiet, weedy ponds and sluggish streams and rivers.

In appearance, the chain pickerel is much like other members of the genus *Esox*. It has the characteristic long slim body, long heavily toothed jaw and is camouflaged to perfection. Old *Esox niger* is generally bronze-green across the back and flanks, with a distinct pattern that resembles an old lace curtain, tire chains or strands of intertwined grass. The underside of the pickerel varies from snow white to creamy yellow. Fins are without markings.

Breeding takes place in spring, when water temperatures exceed 50°F. The young pickerel are colored much like the adults. They grow rapidly, attaining a length, under favorable conditions, of 15 or 16-inches within a period of three years. Average weight runs to about 3-pounds, though 5-pounders are not uncommon. They feed primarily on small fish, frogs, crayfish and insects.

This game fish can be taken with a variety of fishing methods, from still fishing with live minnows, to trolling. But modern pickerel enthusiasts lean heavily on casting and spinning. The variety of inexpensive spoon lures

available today work so well that few want to bother gathering bait and keeping the bait healthy and lively.

Modern spoons of all descriptions find favor with pickerel. Tiny, 1/8 spoons in silver, gold and painted finishes or combinations of these put pickerel in the creel. So do larger spoons, those measuring three to four-inches in length and weighing up to 3/4-ounces. Even home crafted lures, made from pieces of soft brass or stainless metals are acceptable.

Much in favor are so-called weedless spoons. These have wire guards protecting single hooks or in some cases, treble hooks. These are almost a necessity for effective fishing in weedy water during the early summer months. Now, with vegetation dying and withering, spoons with unguarded hooks work fine and dandy. Leaves and stems from what weeds remain, are easily broken and seldom foul hooks or impair the gyrations of the lure. Three or four spoons at the most, fitted into a small box and carried in a shirt pocket, are all the hardware necessary for a full day of pickerel fishing.

One needs a boat to go out into the deeper water of the pond to catch pickerel during spring and summer. Not so in the fall. As temperatures of the pond recede, pickerel come shoreward, into shallow coves and backwaters. A fisherman can pull on hipsters or waders and work along the shoreline. A casting or spinning rod will put him within reach of where the action is.

Pickerel customarily slam into metal lures, then dash quickly for cover. After this initial run, the fight appears passe, but don't you believe it. On light gear, pickerel stage numerous powerful runs, and are fair game right up to the moment you scoop them in a landing net. Often as not, there is a last minute scrap as you touch a sensitive tooth while attempting to free the hook.

Experienced pickerel fishermen advise against reaching tender fingers into the savage toothed jaw of a pickerel. This is asking for trouble. We suggest that you carry a pair of long nose pliers. Reach this gripper into the bucket-size mouth when extracting the lure. Wear an old glove to assist in gripping the slime coated pickerel while administering the hook withdrawal and finally the *coup de maitre*.

Matching the pickerel fishing is the fine autumn scenery. Aside from possibly spring, when the landscape is a continuous bed of blossoms, autumn scenery is the finest, most beautiful of the year. Everywhere in Pennsylvania and the Northeast, where the deciduous forests grow, frosty weather and decreasing hours of sunlight cause chlorophyll to disappear from leaves, leaving behind a medley of color—flaming reds, golds, yellows, even purples and the intermingling shades. Pity the residents of the coniferous forest regions, which includes much of Western U. S. and, in fact, the world, who do not ordinarily witness this color spectacle! You and I, here in Pennsylvania, are able to view this breathtaking parade of color. And to top that, catch pickerel at the same time.



walton's other side

walton's other side



By **BILL WALSH**

IT'S hard to get Jim Bashline to be serious when he's fishing—except about the fishing. I had just asked him if he was aware that there were two sides to that famous angler, Izaak Walton. He sucked on the stem of his pipe, threw a pale evening dun upstream of a feeding fish, hooked it neatly, and while playing it honored me with this thoughtful reply:

"Well, I expect he had a front side and a back side!"

I waited till the brown—a fat pound-and-a-half—was landed and released before I tried again. "Be serious," I said. "I just thought that as a writer-angler-editor you'd be interested in the fact that there were two important sides to the man."

"Oh, I know," he grinned. "You mean an inside and an outside!"

I gave up. But the next time I cornered him behind his desk I started to get the point across:

"Our great predecessor, Mr. Walton," I said, "was also known in his time as a writer of biography."

"I'll bet it didn't sell like the *Compleat Angler*," Jim observed.

Since Walton put out five separate editions of the "Angler" in his lifetime and since "everyone and his brother" have put out limitless editions since then, I could hardly argue the point. Particularly since I'd recently delved into Walton's biographical writings and could hardly term them best sellers. The "Angler," on the other hand has averaged better than one edition every two years. Original publication occurred 313 years ago.

I don't mean to imply that Walton's biographical pieces aren't well written—or that they fail to qualify as important parts of literature. I would suspect, though, that unless you came across them by accident in some dusty corner of the library you wouldn't bother to look them up. Unless, as it happened to me, you did it only to satisfy your curiosity as to "what else" the author of "The Compleat Angler" might have written.

Fact is, I had bought a copy of Walton's "Lives" in a used book store many years ago with the thought of discovering what the old fisherman had to say on other subjects. After a cursory examination of it, I tucked it away alongside Gene Burns' revision of "The Compleat Angler" as published by the Stackpole Company in 1953—on the 300th anniversary of the original. Only recently did I get around to looking at it in earnest.

But all this was just a "come-on" or "lead-in" to what I wanted to say to Jim about another "side" of Walton more important to his general popularity among fishermen than his bent to write the biographies of some of his contemporaries . . . noble though that ambition may have turned out to be.

Nor do you have to inhale the dust of ancient books and sneeze at every word to discover the other side. You have only to really read "The Compleat Angler" and it is right there in plain sight . . . and is no secret. It comes as a delightful surprise to many a worm-dunker and minnow-drowner who formerly held an "image" of Walton as a dry-fly purist who looked haughtily down a learned nose at the use of live bait.

Probably the real trouble is that many an angler feels as though he's done his duty to the past by buying the "Compleat" and sticking it up on a bookshelf somewhere. He may even have thumbed through it once or twice; been frightened away by some of the "olde flavour" of the language, and satisfied to forego a cover-to-cover exploration of it. More's the pity. For there is something for everyone in this delightful treatise on fish and fishing in the England of the 1600's. Don't forget—this was Shakespeare's England, too.

The real point is that Walton's "other side" has a down-to-earth everyday seat-of-the-pants fisherman in it. Sure, the popular image is one in which Walton and his angling friend, Charles Cotton, sit in the "Fishing Temple" and wait for a trout to rise before venturing forth to try to catch it—and, of course, this image is a true one because this is exactly what the noted pair would do.

BUT . . . what of Walton's description of fishing for pike in which he talks about the two different methods of fishing—1. with a "ledger" bait and 2. with a "walking" bait. Now there's the rub—that "ledger" bait.

Why even Webster's current edition of the New World Dictionary explains that a ledger bait is fishing bait hooked to a floating line fastened to the bank of a stream, etc. In more up-to-date parlance you'd probably term such a rig a "trot line" and unless you were after big catfish at night on almost a commercial basis, would look askance at any angler who used it.

Yet friend Walton describes in vivid detail how to set one up for the pike, which he describes as a "Solitary, melancholy and a bold fish." No, I'm not going to quote him. The reason for mentioning it is so you'll read it for yourself.

And if that isn't enough to curdle your illusions concerning Walton's approach to angling, while you're reading how to keep a frog alive at the end of a trot line hook, take a gander at how to whomp up doughballs for carp. Do I mean to tell you Izaak Walton got into that kind of angling? Shore do!

You also learn that when he wrote about carp fishing, that particular breed of fish hadn't been in England too long. He quotes Sir Richard Baker as saying: "Hops and Turkeys, Carps and Beer, Came into England all in a year." While Americans do not run down those who fish for carp in such a manner as to get good sport out of it, it is immediately apparent that we moderns fail to share Walton's enthusiasm for the fish which he terms as the Queen of the Rivers—stately . . . good . . . subtle. Hmmm! Out of the Hops, Turkeys, Carps and Beer most 1966 fishermen would likely place greater blessings on the bird and the beverage . . . than on the fish. And after mixing Walton's recipe for doughballs or "paste" as



he calls it, be sure to leave your clothes outside when you come back into the house.

Then, if all this doesn't grab you just right, delve into Walton's description of how best to cook an eel after you've caught one with his method . . . called "Sniggling!"

Now, before Waltonians from all directions get their dander up and wonder why we are desecrating the idol of the clan, let me make a hurry-up confession to prove it isn't so. But since it is desirable on all counts to have more people read this early work on the art of angling . . . for the personal pleasures the book holds for each person who peruses it . . . it is better to show from the outset that the idol does have feet of clay.

In Walton's other writings it is apparent that he didn't place much store in his writings about fishing. And from the writings of others in that time and a bit later it looks as though many people regarded fishing as something that needed to be excused in the practitioner—like a nervous twitch or a wart on the end of the nose.

The musty old book—it really smells musty—in which Walton's "Lives" are printed is entitled Volume V of the Library of Old English Prose Writers. The year of printing is listed as MDCCCXXXII. If you're not up on your Roman numerals that's 1832. The printer was E. W. Metcalf & Co., Printers to the University, Cambridge.

Immediately following the Editor's Preface (Alexander Young) is printed in its entirety "Some Account of the Life and Writings of Izaak Walton." An asterisk following this title leads us to a footnote which says, "This is Zouch's Life, entire." It doesn't say which Zouch but our own research uncovers that it was Thomas Zouch (1737-1815) who at the time of the publication of this particular book had already been dead for 17 years.

Now this Zouch fellow couldn't have been much of a fisherman himself. He apologizes all over the place convincing the readers of the 1800's that a fisherman isn't necessarily wasting his time while angling. In the devious and ornate language of the times (today's editors might call it "fine writing") he puts it this way:

"Let not these remarks (following a recital concerning the popularity of angling in England) provoke the chastisement of censure. Let them not be condemned as nugatory (worthless) and insignificant. Amidst our disquietude and elusive cares, amidst the painful anxiety, the disgusting irksomeness, which are often the unwelcome attendants on business and on study, a harmless gratification is not merely excusable, it is in some degree necessary."

Say—maybe he knew what it was all about after all. The same sentiment in modern-day language would say: "If the boss is beginning to look like your mother-in-law; your stomach muscles are tighter than a tom-tom; your lawnmower weighs a ton, and a rare T-bone tastes like yesterday's chewing gum—why you'd better go fishing, son. In a hurry!"

And THAT is what *both* sides of Izaak Walton are all about.

IF you've ever calculated that the pleasures of fishing and the Appalachian Trail in Penn's Woods share no common area of outdoorsman's interest—think again! For the Pennsylvania portion of the world's longest footpath crosses many a fish-inhabited stream during its 214 miles of tortuous meandering within Keystone boundaries. Proof:

The first hikers I ever met on the Trail—a man and his wife—had made camp at a shelter and were sauteeing four medium-size trout they had taken a little earlier “with a willow pole, dime-store line, a penny hook, and several cooperative white grubs. . . .” To make a hungry passer-by feel even more famished, their light packs also provided “the makin’s” for hot corn bread. The had picked some wild strawberries along the way, now all crushed and sugared; and coffee boiling merrily over an open fire smelled scrumptious enough to drink scalding hot!

While it certainly may not always be practical to do a

A few miles above Harrisburg, the Trail reaches the Susquehanna at a point where Duncannon is on the west bank, Clark's Ferry on the east. At once it traces an eastward course away from the Susquehanna, offering several campsites and shelters as it thrusts its way across the ridges of Peters Mountain, thence to the Sharp and Stony Mountain regions (all a part of the Blue Mountain chain) that encompass St. Anthony's Wilderness.

As the elongated Trail follows the east range of the Alleghenies in Penn's Woods, it bears southward at Rausch Gap, through Swatara Gap, crossing Trout Run and Swatara Creek. Along the ridges overlooking Monroe Valley, practically on the Schuylkill-Berks County line much of the time, the Trail strikes a bee-line toward Shubert Gap. The Appleby cabin and the Hertlein cabin are on this stretch of the lengthy footpath. On or near the Trail one can also find such map-worthy spots as Indian Springs, Pine Spring, Greisinger Spring, Northkill Gap, Philip's Canyon, and others.

Near Port Clinton the Trail crosses the Schuylkill River and bears slightly to the south before making a sharp turn to the north at Windsor Furnace. Up near Baer's Ridge the Trail straightens out as it heads toward the Lehigh County line. You have now left behind Pocahontas Spring and such side-trail points of interest as Dan's Pulpit, the Hawk Mountain Sanctuary, Rim Trail to The Pinnacle, etc. You get into elevations of 1500 feet or

The Appalachian Trail In Penn's Woods

bit of in-season fishing while challenging the shifting course and elevations of the Trail, it's quite possible, on various sections, to have fresh finny fare at the campsite. Even though your favorite assortment of fishing gear very probably will not be toted along when your presence on the Trail is focused primarily on hiking, you still have to eat—and brisk travel afoot always guarantees keen interest in the menu.

To enjoy the tasty luxury of fresh fish—trout, most likely—is a relatively simple matter for Trail wayfarers. You merely have to be as resourceful in questing for bait as you were at age ten . . . able to adapt to use of the most uncomplicated pocket-cached tackle . . . wise enough to catch 'em not too far from where you plan to eat 'em. . . . And that document which testifies to the legality of your Pisces pursuits—don't fail to take it along!

The Appalachian Trail enters Pennsylvania from the south a short distance southeast of Waynesboro. Heading north from the Pennsylvania-Maryland border, it penetrates the Caledonia State Park countryside, and later, the Pine Grove Furnace State Park area. It crosses such oft-heard-of streams as Mountain Creek, Yellow Breeches Creek, Conodoguinet Creek, etc.

higher as you pass the Tri-County Corner (Berks-Lehigh-Schuylkill) and make your way toward the New Tripoli cabin, past Baer Rocks, into Carbon County, over Bake Oven Knob, through Lehigh Furnace Gap, and on to Devil's Pulpit and thence to Lehigh Gap and the Lehigh River. Once past these points, the Trail soon begins to edge ever so steadily to the south.

After you make your way through Little Gap, the mileage isn't too great to the Monroe County line, with Northampton County practically rubbing your right shoe sole for miles at a stretch. Along the way in this section, you'll find campsites, shelters, and springs. Through State game lands the Trail keeps to the south of Aquashicola Creek,

and just beyond Hahn's Lookout it penetrates Wind Gap.

In the area of Ross Common Creek the Trail again bears slightly to the north, getting into higher ridges that lead past Little Offset, Wolf Rocks, and Fox Gap. This portion of the Trail also affords shelters and springs, and soon after you pass through Tott's Gap you'll sight a fire tower in the Mt. Minsi region. Here the Trail starts its squirming turn almost due north along the Delaware. Now the Trail is perilously near to the place where it will run out of Penn soil. Delaware Water Gap is in sight. Across the Delaware the Trail snakes its way to the Kittatinny Range country in N. J.

If your odometer is correct, it will tell you that your Trail trek from Lehigh Gap to Delaware Water Gap covered a little more than forty miles—more if you took side-trail jaunts. If you started at the Susquehanna River (crossing facility: Clark's Ferry Bridge), you traveled the Trail's length in Penn's Woods, minus about 80½ miles—the distance from the west bank of the Susquehanna to Pen-Mar on the Pennsylvania-Maryland border.

While the origin of the Appalachian Trail idea can be traced to a Massachusetts forester named Benton Mackaye, Pennsylvanians played an early key role in pushing the Trail to completion. As early as 1926, Prof. E. C. Bingham of Lafayette College at Easton, organized the Blue Mountain Club for the express purpose of furthering the Appalachian Trail project in eastern Pennsylvania. The effort caught on and soon adults and youth clubs from

By WILBERT NATHAN SAVAGE



every point on the compass were pitching in. Help came from the larger cities—Reading, Lebanon, Harrisburg. But small towns helped, too—Slatington, New Tripoli, Auburn, Pine Grove, and others. Boy Scouts were especially active as project boosters, along with such mature leaders as Messrs. W. E. Black, R. E. Runkle, N. W. Moyer, and Reading's Dr. Rentschler.

Today, interest in the Trail's upkeep in Pennsylvania is as keen as was the initial movement dedicated to its beginning and completion. Maintaining organizations (the parent organization is the Appalachian Trail Conference, Washington, D. C.), now include the York Hiking Club; Brandywine Valley Outing Club; Susquehanna Appalachian Trail Club; Williamsport Alpine Club; Lancaster Hiking Club; Allentown Hiking Club; the Philadelphia Trail Club; and the Blue Mountain Eagle Climbing Club. The latter is a Trail pioneer, having responsibly constructed the 34½ miles of Trail between Schuylkill and Swatara Gaps.

Backed by its own Constitution, the Appalachian Trail extends through fourteen eastern states and covers a distance of some two thousand miles. A continuous route from its beginning on Springer Mountain in Georgia to Mt. Katahdin in Maine, the Trail is primarily a wilderness footpath, and wherever possible it "runs along mountain crests and wild lands of the Atlantic Seaboard." Actually, most of the Trail, from its southermost beginning to Pennsylvania, follows the course of the original Creek Indian Warpath.

Not only is the Trail's purpose dedicated to camping and hiking, but also to the protection of natural wilderness resources. You need not be a member of any maintaining organization, nor of the parent association, in order to use the Trail—and there is never a charge of any kind for hiking privileges.

The Trail is marked by white paint blazes, with blue blazes designating side trails to points of interest. A few stone markers were placed along the Trail some years ago, particularly at State-boundary locations, but the modern marker consists simply of a 4-inch diamond-shaped galvanized plate bearing the Trail's monogram and legend.

The Trail is equipped with many lean-to shelters, some with fireplaces. There are a few rustic cabins offering more adequate shelter for hikers. Regulations are simple: practice the best general etiquette you know, and treat all accommodations as if you had financed them from hard-earned money straight from your own pocket. Also, take time to sign one of the registers that have been placed in cabins and shelters along the way—the Trail's headquarters likes to know how many people are using the sinuous footpath.

As it passes in the vicinity of such points as Old Forge, Mt. Holly Springs, Fox Gap, Wind Gap, and other places with equally charming names, the Trail has achieved a kind of dignified modern-day status: it has become important enough in State planning to rate a border-to-border showing on most Pennsylvania State Highway maps. Indeed, under a program with Federal backing, the Trail may even become a major link in a nation-wide hiking network!

(Turn Page)

SOME NOTEWORTHY TRAIL SIDELIGHTS AND RECOMMENDATIONS

Heading west from the Susquehanna on the Appalachian Trail, over Cove and North Mountains, the hiker appropriately turns south to reach South Mountain somewhat west of Brandtsville, Pa. This point represents the northernmost extension of the Blue Ridge.

The entire section of Trail between Swatara Gap and South Mountain is a relocation of the route worked out in 1955. The new course does away with the need to travel five miles down the Susquehanna to gain bridge facilities at Harrisburg. Originally, of course, this meant going back upstream the same distance in order to hit the east-side Trail. The former Trail route from Manada Gap to the river, and the river to present Trail location, is now the blue-blazed Darlington Trail of the Susquehanna Appalachian Trail Club, so designated in memory of Bishop Darlington, an early Trail leader in the area.

South Mountain is a broken range as far as Pine Grove Furnace; at this historic resort the Trail crosses the narrow valley in the shadow of South Mountain's northern ridge. This region is a part of the Michaux State Forest. After crossing the Lincoln Highway at Caledonia State Park the Trail leads past Snowy Mountain Firetower and on to the famous Mason-Dixon Line separating Pennsylvania and Maryland.

In addition to streams already mentioned between Pen-Mar and Duncannon (Mountain, Yellow Breeches, and Conodoguinet Creeks), the Trail also crosses, or passes close to the following: the East Branch of Antietam Creek, Raccoon Creek, Birch Run, Hunter's Run, Tagg Run, Trindle Spring Run, Hogestown Run, Fishing Creek, Cove Creek, Sherman Creek, and others.

Between Delaware Water Gap and the Susquehanna, the Trail either crosses or shares the immediate vicinity of Pine, Buckwheat, Princess, Chappel, Cherry, and Jordan Creeks. Also Rattling Run, and Clark, Swatara, Bear, Plum, Rausch, Stony, and Mill Creeks—with the list intended only as partial enumeration of the streams.

White blazes marking the Trail's course are about 2 inches wide, six inches high. Every effort has been made to keep the blazes within sight of each other. Usually a hiker should not have to walk more than 100 paces to be in sight of a blaze, either before or behind him—except in very open areas. A double blaze, one above the other, is a signal that a change in the Trail route is just ahead.

A Trail Handbook, publication #15, urges users of the Appalachian Trail not to travel alone. Hikers are also cautioned against trying to carry packs all day when starting weight was in excess of 38 or 40 pounds.

Other Handbook suggestions:

Use extreme care when fires are built at cabins and shelters—the only places that fires should be built.

Leave the dog at home.

Carry a filled canteen and a few band-aids and make certain your footwear fits properly.

Don't carve initials on trees along the way. Keep alert to the possibility of coming upon a snake. If you plan to be on the Trail overnight, take along a sleeping bag or heavy blankets.

LAKE PLEASANT RAINBOWS

By MARSHAL YOUNG

A LAKE rainbow can be a difficult fish to take on a fly under the most favorable conditions. Take the frustrations of hot summer weather, few fly hatches, interspecies competition, and you have conditions that force most trout anglers to store the fly rod away by the middle of July mumbling something about next spring.

Lake Pleasant, a noted rainbow trout lake located in Erie Co. in the northwest corner of the state has proven this to us many times. However the first cool days of late September bring a change that is almost miraculous. Water that was stratified is now mixed, surface temperatures have dropped, the trout begin to move and move at the surface. They are everywhere now, over the weed beds, in the middle of the lake, at the shoreline, cruising and feeding, sometimes singly perhaps a shoal of a dozen or more.

On those beautiful, calm, warm days of October appear the last of the chironomidae or midges hatch. Now is the time to be on the lake. You will see rises and swirls everywhere and those rises will have been made by trout. The bluegills and crappies are stacked over the deeper reefs. We won't contend with them any more this fall unless the weather gets very warm or we fish our flies too deep. An angler able to take advantage of this fall fly fishing will be sampling some of the quality fishing our Commonwealth has to offer.

On Lake Pleasant the continuing hatch of chironomids during early October brings the rainbows to the surface as nothing else will. To take advantage of this fishing, a calm day can be a great asset. The anglers first move is to get firmly anchored on a known fishing area close to shore where most of the fish will show. He may feel like the angler Mr. H. A. Oatts was thinking of, when in his chapter on difficult loch fishing for Scottish trout, he wrote,

The man who drifts upon a lake in search of
trout to slaughter

May weep like anything to see such quantities
of water.

"Could this be only drained away", he says, "my
quest would be much shorter".

Our rainbows are going to be a little easier on us than this. They are cruisers. They are never stationary as most stream fish are in their rising. They cruise and usually never move on a straight course. The trick is to cast and anticipate where fly and fish will meet. Never cast at the rise, there is nothing there.

Fishing of this type can be demanding on your casting. With a nice fish showing in your casting range, the temptation to flail the water can at times be overpowering. The trick is to spot each fish and work on it as long as it remains

in casting range with quick, accurate casts. Don't change to another fish if one rises while you are casting to a certain fish. Stick with your fish until you take it or it moves out of range.

Fly patterns are not too important as long as one keeps to the producing lake patterns. Most sizes down to 14 will take fish and it pays the angler to stay small. Among the best patterns I use are Grizzly King, orange and grouse, green and grouse, march brown silver, and the Ivens pattern black and peacock spider. Another good fly I use a great deal is a #12 light cahill tied sparse on a heavy hook. Although Sean Young, no relative of mine, but a good friend, living in Cavan, Ireland, tells me he thinks the orange and grouse trimmed slightly is by far the best fly when rainbows are up on their lakes feeding on chironomids and I would certainly have to agree.

One word of caution on striking. You should not strike a lake fish! With good sharp hooks all it takes is a pull to set the hook. The reason for avoiding a hard pull or strike is because of the uncertainty of knowing exactly when a fish has taken the fly. Many times a push of water will be seen as the rainbow moves to the fly which is just under the surface. If a striking technique is used, one will quite often snatch the fly from the fish before the take, resulting in a shy fish. Pull the hook in, strike your match but not your fish.

If you should find yourself on one of our good trout lakes this fall, such as Lake Pleasant, Chapman Dam, or perhaps Upper Woods Pond, you may find fly fishing you never knew existed in this state. I find an increasing number of anglers commenting on the stable weather conditions, fly hatches, and cool water, that all go together to make good fall fishing.

The days are softer and more brilliant as only fall can be in Pennsylvania. We know how numbered these days will be before the first snow blows in but I think our angling minds are sharper then. Gone are the easy fishing days of the spring and early summer. We have had a

whole season to sharpen up and now is the time to make use of it. We Pennsylvanians are doubly blest, especially those of us fishing trout late in the fall.

If you are interested this is the pattern description of the most popular lake flies that I use. These are the patterns: All flies are tied on heavy wire hooks.

Pattern —orange and grouse
Hook size—14, 12, 10
Tail —golden pheasant tippit
Body —orange floss or thread with narrow flat gold rib
Wing —Pa. grouse
Hackle —two turns of feather from neck ruff of grouse

Pattern —green and grouse
Hook size—14, 12, 10, 8
Tail —golden pheasant tippit
Body —medium green floss or thread with narrow flat gold rib
Wing —Pa. grouse
Hackle —two turns of feather from neck ruff of grouse

Pattern —March brown silver
Hook size—14, 12, 10
Tail —none
Body —flat silver tinsel
Wing —Pa. grouse
Hackle —grouse

Pattern —grizzly king
Hook size—14, 12, 10, 8, 6
Tail —scarlet fibers
Body —green floss with silver rib
Wing —mallard side feather or grey squirrel
Hackle —grizzly barred rock

Pattern —black and peacock spider (Ivens pattern)
Hook size—14, 12, 10, 8, 6
Tail —none
Body —peacock herl in abundance making a fat round body
Wing —none
Hackle —extra long fiber black hackle

Pattern —Light Cahill
Hook size—14, 12, 10
Tail —ginger hackle whisks
Body —light fox dubbing
Wing —woodduck
Hackle —ginger





ABOVE—First step in "cleaning" Hammer Creek was to electro-shock all areas of the stream which were to be treated with rotenone. In shocking, 77 trout and 127 bass were captured and taken alive to the upper section of the stream, above the area to be chemically treated. **RIGHT**—There goes one! A member of a shacking crew spots a bass and gets set to net it. **BELOW**—Rotenone, used to kill the fish, was dumped in Hammer Creek in measured amounts and sprayed on some farm ponds in the area in an attempt to eliminate as many trash fish as possible. Cooperation from farmers and land owners in the area "let us do a job that would otherwise have been practically impossible" one Fish Commission representative said. **BOTTOM**—Samples of all species found along the stream were taken. Preserved in formalin the fish will be examined later. Pictured checking the samples are: Jim Pence, deputy fish warden, Dave "Tiny" Daniels, fishery biologist, Keen Buss, project coordinator, and Francis Ratchford, fish warden.



Nearly every angler has probably heard of a stream being "cleaned out" but few have seen one cleaned as was Hammer Creek late this summer.

Preparing for the new 100 acre Speedwell Forge Lake in Lancaster County, Pennsylvania Fish Commission personnel wanted the stream free of rough species such as suckers and carp so game fish—to be stocked later—would have less competition for food and living room.

Under the direction of Keen Buss, project coordinator, three crews spent two days using electro-fishing gear on the stream, capturing bass and trout and transferring them alive farther upstream.

The gates of the dam were then closed, and measured amounts of rotenone, a poison that suffocates fish, but doesn't harm warm blooded creatures at the same concentrations, were introduced into the headwaters of Hammer Creek.

Upon reaching the dam potassium permanganate was applied to the rotenone treated water to prevent its killing fish farther downstream.



FISH COMMISSION **RECLAIMS A**



ABOVE—One of the three crews that shocked Hommer Creek in search of trout and boss works upstream just above the dam as interested spectators from nearby communities watch. Local sportsmen, farmers, and boy scouts assisted 20 members of the Fish Commission with the project. BELOW: LEFT—Dead fish were picked from along the stream and hauled to a pit where they were covered. CENTER—This 40-inch eel, found by Gordon Miller, a biology teacher from nearby Lititz, was one of three picked up during the operation. The other two were discovered during shocking. RIGHT—As the water left the dam it was treated with Potassium Permanganate to remove the toxic qualities of the Rotenone so fish downstream would not be killed. A motor boat was also used to spread it in the stream channel above the dam.



WATERSHED



READY TO START, divers wait for can of salmon to be tied to a line before going down while Wyoming County Warden Steve Shabbick and Jim Yoder, warden for East Sullivan and Luzerne Counties, stand by in the boat used for shuttling the fish out from shore. Also in the shuttle boat is a TV cameraman and a reporter for station WNEP TV in Wilkes-Barre.



TAKING A BREAK divers Claude Neifert and Jack Miller hang onto the side of the Boston Whaler used as a diving platform during the operation. It took about four hours to stock the nearly 50,000 Salmon and Lake Trout.

SCUBA STOCKING SILVER SALMON

By **TOM EGGLER**

*Staff Writer-Photographer
Pennsylvania Fish Commission*

TWO firsts took place a couple of months ago at Harveys Lake in Luzerne County, 12 miles north of Wilkes-Barre.

One was the introduction of the Coho or Silver Salmon to Pennsylvania's waters.

The other was the method of stocking them—scuba gear was used to take them down to the proper water temperatures before they were released.

Raised from eggs hatched at the Pennsylvania Fish Commission's Benner Springs research station the salmon—some 30,000 of them—ran from two to four inches in length. They weighed a total of about 500 pounds.

Also stocked were 18,800 Lake Trout of approximately the same size.

Noted for their savage fighting qualities, good weight—up to 10 pounds, and willingness to strike artificial lures, the Silver Salmon were stocked as an experimental project.

Biologists hope to find out how they respond to life in a fresh water lake—how fast they grow, whether or not they'll reproduce, and what kind of fishing they make here.

Usual habitat is the Pacific Northwest where they are a sea run fish and normally, according to biologists, they would have a tendency to return to salt water until they reach a certain growth but Harveys Lake has been screened at its outlet to prevent their escaping.

In order to give them a first class chance of survival biologists donned diving gear in order to take them down to depths where the water temperatures were approximately the same as those in which they had been raised.

Hatched and raised in water temperatures of about fifty-five degrees it was necessary to lower them some thirty feet in cans before releasing them.

Dual dangers existed in releasing them up higher.

First the warmer water temperatures would quite possibly have killed many. Second, biologists feared they'd become nothing but fish food for the warm water species in the lake which stay much nearer the surface where the water is as much as 20 degrees warmer.

Using one boat as a diving and work platform from which the cans of fish were lowered to the divers and another for shuttling the cans back and forth from shore the whole operation took approximately four hours.

Although it will be several years before the experiment can be fully evaluated it is hoped the newly introduced species will take hold as successfully as a 1959 four-year experiment with the Kokanee salmon, also from the Pacific, now abundant in Upper Woods Pond in Wayne County.



LOADED INTO CANS from the truck tanks, the fish were hoisted out to the diving rig a can or two at a time, lowered, and released. Only a few minutes elapsed from the time they left the truck until they were safe below the surface. Hoisting more cans a trip would have meant some of the fish would have had to be in the cans too long, using up the oxygen supply and probably dying.



RELEASING SALMON was accomplished by lowering cans of fish some thirty feet to the divers who removed the can lids and let the fish swim out into water of the same temperature as they had been raised in. Manning the lines here is Dick Roberts, fish warden of Susquehanna County.

STOCKING PLANS START EARLY

While it may seem a bit early to the average fisherman to be worrying about where next spring's fish will be going, it's a job that has had the Pennsylvania Fish Commission's fish stocking manager busy for several weeks.

Budd R. Brooks, who has had charge of the program since 1956, and his secretary Marguerite Confer have been checking the records and making plans for the 1967 stocking since July.

Starting with an examination of past stocking records, Brooks integrates new policies set by the Commission, recommendations made by county wardens, and the results of biological surveys with the number of fish available.

Under the State-Federal Trout Stocking Program, Brooks' stocking schedule includes not only all trout reared at state hatcheries but also several hundred thousand from the national hatchery at Lamar.

At any time during the planning he may check back a year or two, to find out how many and what kind of fish have been stocked in the past in any given stream or lake.

Decisions must be made as to how many trout to stock before season, how many to stock during season and how many to release during the fall. Not only must the numbers be considered, but the size and species as well.

Many streams and lakes may be stocked with numbers and species nearly identical to previous years, but on the other hand some may require considerable change.

And then too, each year more dams are finished and new lakes grow, adding to the list of areas to be stocked.

All in all planning where the fish will go turns out to be not just a seasonal job but rather a full time, year around proposition.



LOOKING OVER THE LIST of last year's stocking is the starting point for planning what will go where and when in setting up next year's stocking program. Working full time getting ready for a new season are Budd Brooks, fish stocking manager, and secretary Marguerite Confer.



CHECKING BACK may often be necessary in planning a new stocking program. Here Budd Brooks checks the files to find out what was stocked in a stream during a past season. The records go back to the thirties.



READY TO GO, these fingerlings should be good for several hours of survival in this sealed plastic bag. Such shipping of fry and fingerlings permits more to be sent over greater distances than ever before. Before shipping the bag will be placed in a cardboard box and possibly packed with ice, depending upon whether or not the transportation vehicle is air conditioned and what species of fish are involved. Holding the bagged fish and demonstrating the technique below is Jock Miller, biologist at Benner Springs research station.

FISH by the bagful?

It may sound like a way of carrying home a good day's catch from some farmer's overstocked pond but actually it's the latest idea in getting live fish from a hatchery to the stream.

For years fish have been transported by the Pennsylvania Fish Commission in just about everything from a farmer's milkcan to tank trucks. And while a lot of fish have been moved this way, increased fishing pressures along with more fish and varied species from greater distances have made it necessary to come up with some new ideas for moving what may be the future prize of some angler.

FISH by the BAGFUL

By **TOM EGGLER**

*Staff Writer-Photographer
Pennsylvania Fish Commission*

Consequently Fish Commission researchers have been experimenting with—and are increasingly using—plastic bags for the transportation of fish, so far mainly fry and fingerlings of either muskellunge or northern pike. In fact an estimated 95 per cent of these two species are now being shipped this way, according to Jack Miller, research biologist at Benner Springs.

The bags, nothing more than clear plastic, are filled with whatever amount of fish are to be shipped—up to 5000 fry in each—along with a given amount of water, depending on the overall weight of the fish.

All air is then removed from the bag by dipping it in a water tank and forcing the air out. Next an oxygen hose is inserted into the small opening on one corner of the bag and approximately two pounds of pure oxygen is pumped in, swelling the bag something like a lowly inflated balloon.

The open end of the sack is held closed so the oxygen can't escape and then is sealed in an electric heating clamp. Once sealed the bag is carefully set in a cardboard carton, ready to be shipped to its destination.

Depending on the distance to be traveled and the method of transportation the cartons may have to be iced to hold temperatures down.



NETTED FRY or fingerlings are dumped into plastic bag through a funnel after a small amount of water is first put in. The volume of water used depends on the weight of the fish which will be bagged.



OXYGEN TURNED into the bag is the key to the success of the operation. Before being pumped full with oxygen the bag is dipped into a water tank to force out the air. About two pounds pressure is maintained.



SEALING BAG is next step after oxygen has been pumped into bag. The seal is simply made on this electrically heated clamp which melts the plastic together, providing an airtight bag. Without the oxygen sealed in the fish would die within a few minutes.

Boating *With* ROBERT G. MILLER



CURRENT OFFICERS of the West Branch Motor Boat Assn. Inc.: seated, left to right, George Lunt, commodore; Floyd "Terry" Fravel, vice commodore and dockmaster; standing, Kenneth Bergren, secretary-treasurer.

COMPLETING another milestone in its 17 year history this year is the West Branch Motor Boat Assn., located on the west branch of the Susquehanna River, at Dubois-town.

This organization had its origin, according to a history compiled from the minutes and records of previous meetings by William McCoy, past commodore, with about 20 active motor boat owners from Williamsport. Within the short span of ten years the club grew to 80 members with docking privileges and 150 associate members.

At first the nucleus of the organization kept their craft at the former Susquehanna Canoe Club quarters at Maynard Street, in South Williamsport, and met for the first time on Feb. 22, 1949 to appoint a committee, prepare by-laws and establish the aims of the organization.

The charter was drawn up and the club incorporated on April 13, 1949 "to serve the interests of power boat owners, defend discriminatory legislation and taxation, prevent pollution, stimulate boating interest locally, provide boating information and provide boat docking and ramp facilities."

At that time the west branch included a large number of abandoned shear booms and permission was granted by the state to dynamite these cribs. However this proved a bit too costly a task for such a small group so, as an alternate measure, the club placed markers to keep the boating traffic away from such underwater hazards. In line with this project, the club worked with state au-

thorities in cleaning up the residue from the local glue plant and tannery.

In October of that first year of operations the club was forced to move from the old canoe club quarters, which were torn down for the Williamsport flood control program, to the Minnequa Club in Dubois-town. The following year the club began expanding the float area, which has since been increased to about 600 feet, and for the first time a gasoline float was in operation.

A marine railway, built in 1951, was used until 1953 by the club but meanwhile, in December, 1951, the Minnequa Club was up for sale and the new management gave the boating organization permission to keep its docking facilities intact for a year. As a result a committee began looking around for a tract of land along the river for a permanent location and before long a new club house was under construction.

Along with this interest in pleasure boating came boat racing and the first sanctioned race took place in August, 1952. This was the first since about 1935. About 4,000 spectators, lined up on both sides of the river, witnessed the event which had about 68 entries. Subsequent races had plenty of entries from all over the eastern seaboard but the attendance, unfortunately, began to dwindle.

With its new headquarters located adjacent to the Minnequa Club grounds, the club continued to expand its facilities and in 1955 saw the formation of a "Save the Dam" committee when Pennsylvania Power & Light Co. decided to remove the old Hepburn Street Dam, constructed about 1842 for the old Susquehanna Boom Co.

The six man committee worked with the Department of Forests and Waters, Dr. Maurice Goddard, secretary, which was in favor of repairing and retaining the dam, particularly for its recreational value in that area, and the necessary repairs were carried out by PP & L. The state, in August, 1957, purchased the dam and established a state park just west of the Arch Street bridge on the Williamsport side of the river.

Boating safety has always been an integral part of the West Branch organization. As a result a U. S. Power Squadron was formed, through the cooperation of the Bellefonte squadron; and not too many years ago the club joined forces with the Pennsylvania Pleasure Boaters Assn. in an effort to obtain fair regulations for the boaters of Pennsylvania.

The club has done much to promote outdoor recreation on the Susquehanna River not only to residents of the immediate area but to strangers as well. The latter included a tour of foreign exchange students, sponsored by the American Field Service Assn., who were guests of the club on the river while enroute to the World's Fair.

Included among the committees within the organization is one called a "river clean-up" committee. Using aerial photos taken by club members, the committee prepared

charts of the river, showing all the obstructions, which were passed on to Dr. Goddard, of the Department of Forests and Waters. These are being used for future improvements on the west branch.

Also the committee, again working with state agencies and the Corps of Engineers, arranged a tour of the river to show the conditions which must be eliminated to provide safe boating. New charts and additional photos were sent to Washington for study and since then the club was promised proper markings, some illuminated, indicating the channels at the Arch Street bridge and the Linden RR bridge.

Two years ago the club improved the launching ramp by giving it a cover of black top and it is now the best ramp, and perhaps the most heavily used, in the Williamsport area. An addition to the club house was built making it one of the finest in that section of the state.

Since 1949 the club has had 12 commodores. Harry E. Kolb served two terms, 1949-50; Cleo F. Pineau, 1951; Boyd W. Simpson, 1952; William J. McCoy, 1953-54; Mark Galetti, 1955-56; Arthur C. Wallis, 1957; Harry J. Gehr, Jr., 1958; William J. Neeld, Jr., 1959-60; John C. Grey, 1961; Stanley F. Crew, 1962-63; Harold S. Minier, 1964-65; and George Lunt, the current commodore.

"Recreational Boating Statistics . . . 1965" released earlier this year by the U. S. Coast Guard revealed that the total number of boating accidents reported during the year represents about a four per cent decrease over the previous year's figures.

This is despite the fact that during the same period the number of boats registered in the U. S. rose from 3,763,000 to 4,138,000. The total number of boats in use in the country is estimated at more than eight million, but approximately half are unregistered.

According to the yearly report capsizings cost most of the lives lost and most capsizings are attributed to the fault of the operator in his handling of the vessel. Lack of training and experience may lead him into waters which exceed the limits of his craft, perhaps lure him into unexpected currents, cause him to ignore weather warnings, or to exercise poor judgment in loading his boat.

It is estimated that 50 per cent of the persons in the U. S. cannot swim 50 feet so it becomes essential then, in all but the most unusual cases, that victims of a capsizing should stick with their craft. A study of accidents where persons perished in the water showed that of the 1,360 persons who died, 1,212 had no life saving devices on or within grasp.

Fires and explosions, the report continued, led the list of property damage. In personal injuries reported, fires and explosions rank second with a 50 per cent increase since 1960.

These factors have resulted in revised regulations requiring improved ventilation systems designed to reduce the hazards of volatile fuels in boats by introducing fresh air into fuel and engine compartments ducting dangerous heavier than air gases, if present, not only from the compartment but to the open atmosphere, hence out of the boat.

The report also stresses the importance of reducing

speed in restricted or congested areas, of observing local traffic patterns, and of taking early and positive evasive action when a collision is likely.

It went on to warn that few non-swimmers survived accidents if they did not use a life-saving device. Only nine per cent were rescued, whereas 50 per cent of those non-swimmers who did have a life saving device were rescued. The average age of fatal accident victims is 37 years, while male victims outnumber female victims better than 10 to 1.

WHAT IS THE DIFFERENCE BETWEEN A LIFE PRESERVER AND A BUOYANT VEST?

The simplest answer is buoyancy. While either may be designed to wear like a horse collar, only "preservers" also come in designs worn like a jacket. "Preservers" manufactured since 1949 have been Indian orange in color. Most vests are now too. Without splitting hairs then, we can say that a life preserver, which meets regulations on all ships, passenger carrying boats and pleasure craft, provides about 22 pounds of buoyancy. A buoyant vest, acceptable on classes A, 1 and 2 motorboats not carrying passengers for hire, provides only about 16 pounds of buoyancy.

Lifesaving devices in which kapok or fibrous glass flotation material is not contained in sealed plastic bags lost their Coast Guard acceptability on Jan. 1, 1965. Now all lifesaving devices which are fiber filled must have the flotation material encased in heat-sealed plastic bags. (No unprotected types have been manufactured with Coast Guard approval since 1958.)

PROPER BALANCE, WEIGHT AIDS BOAT'S PERFORMANCE

The difference between a top performer and just an average or poor handling boat may depend on where you store that extra gas tank, the cold drink cooler and assorted gear.

Besides handling ability, a rig's top speed and fuel economy can be improved by proper weight and balance.

Most skippers have seen the difference in a boat's performance when two or three passengers are aboard, or when they all decide to crowd into the stern. A lot of heavy gear can have the same effect. The best way to check your boat's balance is a short "shake-down" cruise.

If too much gear is stored in the stern, the boat will "squat," and the bow will ride too high out of the water. Try moving some of the extra gear forward, and you'll notice a marked improvement in handling. The same is true of boats that are bow heavy. Besides throwing water over the bow onto the passengers, steering will be more difficult.

Check your boat's top speed when running at full throttle with the extra gear in different places. Although most boaters don't plan on operating at top speed, it stands to reason that if it takes less throttle to move your rig at a given speed, you're saving on fuel. And those words are dear to the heart of every boater.

Now, check handling and speed together. Often you'll find that best balance and weight distribution for good handling is the same as for top speed.

CONSERVATION EDUCATION IN THE ACTION STAGE

By HANK ROSEN



Many people feel that the place for education is in the classroom. Within certain areas, this is undoubtedly so, however; it would be best to consider the entire world as the school house. A great English playwright once stated that, "All the world is a stage and we are merely the players." Carrying this into the field of conservation education is not as difficult as some would think.

A great many activities are available which can have a positive training effect on young people. The rewards of this training are not only immediate but lasting. They result in having far better conservation practices for tomorrow's citizenry. The following list of activities is by no means to be considered a comprehensive or complete plan of activities, but is merely intended to show the kinds of activities which have been proven to be effective. Undoubtedly, you can think of many more to supplement this list.

1. Either as an individual or a group member prepare a bulletin board display or have a booth at some local exhibit or convention. This not only carries across the message, but may result in your picking up new members. One gimmick to be tried might be to prepare a great many small printed envelopes containing something like wild bird seed to be handed out to each who pass your booth. Printed on the envelopes might be something like "Take me into the woods and spread me out where I will do the most good."
2. Prepare a list of different kinds of free materials, materials including literature and films. A great many organizations as well as companies have excellent literature as well as visual programs, all of which carry the conservation message. A special exhibit of these materials displayed in your local library, YMCA, Borough meeting hall, etc. can aptly carry forth your message.

3. Form a local chapter of some organization dedicated to the preservation of our national heritage or incorporate this principle into the charter of some sportsman's club you might attend.
4. Provide a Field Day for all of the youth in your community utilizing the facilities of some local outdoor sportsman's club, having the group listen to short lectures by skilled representatives of the organization. Follow this up with something like a hot dog roast for all. The picnic atmosphere blends itself well to this form of conservation education.
5. Form a junior branch of your local senior organization and have it dedicated toward conservation type projects.
6. Distribute to the youth in your area free drawings and pictures of easily made bird feeders, houses, etc.
7. Hold conservation workshops in conjunction with your local school district employing the services of the skilled technicians in your locality i.e. Game Protector, Fish Warden, Department of Forest and Waters Representative, County Agent, U. S. Fish and Wild Life, U. S. Soil Conservation Service, etc.
8. Provide field trips for the youth to nearby conservation areas or projects such as game farms, dams, reclamation projects, etc.
9. Organize young people to participate in a work project on some definite conservation activity such as increasing wild life cover, obtaining browse for wild life, (under adequate supervision) stream-bank reclamation and restoration, etc. A notable example of this occurred this past winter when many boy scouts from Western Pennsylvania participated hundreds of miles from home in a deer browse cutting project.
10. Form a team of 3 or 4 fellows to visit scouts, church, youth groups, YMCA's, etc. to present during their regular meetings a 30 to 45 minute program including a film on some exciting outdoor topic which will provide easy access to a short lecture on conservation following the showing of the film. Most young peoples' groups will grab up the opportunity to have visiting speakers and entertainment as they frequently do not have their programs completely filled.

The final item is possibly the most direct grass-roots approach of any of these listed. As an adult, you will be very much surprised to see how easy it is to speak to young people, how eager they are to receive your message, and within no time at all, you will really be in the action stage of conservation.

MODERN CAMPING

By DEL and LOIS KERR

MANY campers are amazed to smell the mouth-watering aroma of fresh-baking bread, muffins, pies and cakes drifting through the woods. A trick of imagination? Not at all. If you investigate the source, you'll undoubtedly find a well-nourished outdoorsman, a glowing hardwood fire and a reflector oven loaded with golden brown, lip-smacking victuals.

This is not a lost art closely guarded by a few dedicated woodsmen, although it does date back to pioneer days. Anyone can learn to use a reflector oven with just a little practice. In fact, it is difficult *not* to turn out good dishes even on your first try!

A backwoods oven consists of nothing more than a couple sheets of metal set on an angle with a shelf in the middle. When placed in front of a small but lively fire, heat is reflected and circulates evenly around food from all sides. With a little experience you can bake anything from biscuits to layer cake, meatloaf to juicy, fresh-caught trout.

And experience comes fast. The reason for quick success is that you are able to watch the entire baking process from start to finish. If browning occurs too quickly, move the oven back from the fire; if more heat is needed, throw on a few more sticks of kindling. It's that simple.

Factory-built reflector ovens cost from several dollars to twelve dollars or more. We made ours out of one 36-inch square sheet of .002 aluminum. Top, bottom, sides and back detach for flat storage under a car or boat seat.

The unit measures 22" x 14" in the front, tapers down to 22" x 7" in the back and is 13½" deep. Aluminum angle iron is riveted to the sides and back for maximum strength and forms the rear legs. A removable grill-type shelf is used, although it is advisable to wrap with several layers of foil to prevent scorching to bottom of food.

An outfit of this size is probably larger than necessary for occasional baking, yet welcome when a number of goods are prepared at the same time. And it won't take many hungry campers to see that the extra space is put to good use.

A steady blaze is required rather than hot coals. Checking with an oven thermometer, we learned that inside temperature jumped to over 600° in just a few minutes with the oven right next to the fire. This, of course, is too hot for average baking but useful on occasion.

It is wise to preheat the oven slightly before use. Have firewood cut to length in advance. Once the baking process has started, the size of fire should remain constant. A small fire along the perimeter of the oven is better than a larger fire because it will be necessary to reach into the oven to rotate baking pans from time to time.

Our favorite type of fire is simple but effective. Basic "framework" resembles an elongated "U" shape, inverted to the oven front. A 2" diameter hardwood limb, cut into two pieces about ten to twelve inches long, is placed



REFLECTOR OVENS are growing in popularity. With bottom panel removed, this unit doubles as a "shelter" for rainy-day wood fire cooking.



CONCRETE FIRE RINGS, favorites at many state parks. Co-author bakes bread and cakes by regulating size of fire. Small blaze and close control important.

on the ground and forms the short ends of the "U". Next, a four to five inch log is placed on top and to the far end of the shorter limbs. It is thus raised off the ground several inches and provides plenty of draft for the fire fed at the inside edge. A fire of this type can be easily maintained along the entire oven front.

Our oven is deeper than most, but we can detect no appreciable loss in heat reflection. The unit was designed deep for good reason. We love meals cooked over a wood fire. In case of rain, the bottom sheet of the reflector oven is removed and a small fire built underneath. Again, simple but very effective.

PENNSYLVANIA FISH COMMISSION ELECTS NEW OFFICERS



New President—GERARD J. ADAMS



New Vice President—WALLACE C. DEAN

The Pennsylvania Fish Commission has elected Gerard J. Adams of Hawley, Wayne County, as its president and Wallace C. Dean of Meadville, Crawford County as its vice president.

Mr. Adams, who succeeds Robert M. Rankin of Galeton, Potter County, was first appointed to the Commission on June 1, 1955, by Governor George M. Leader. He was reappointed by Governor David L. Lawrence to serve until January, 1968. An ardent sportsman and civic leader, he is engaged in the theater business in Hawley.

Mr. Dean, who succeeds Howard Heiny of Williamsport, Lycoming County, was appointed by Governor John S. Fine in 1953. He was reappointed by Governor David L. Lawrence to serve until January, 1969. The new vice-president is a life-long fisherman and has been constantly active in sportsmen's circles.





Notes FROM THE STREAMS

■ While trying to get some snakes for our new display, I was talking with some friends and mentioned that we didn't want any poisonous snakes for the display, but that I would like to get some gartersnakes and some green snakes. The one fellow asked if the "green snakes" were as poisonous as the ripe ones. I gave him one of our "Reptiles and Amphibians" books.—**District Warden JOSEPH E. BARTLEY (Pike).**

■ Mr. Wallace Bailey of Wellsboro was fishing in Hills Creek Lake when he had the good fortune to hook on to a nice musky. He was fishing near the boat docks of the concession at the park. Mr. Bailey had one serious problem, however, he had no landing net. He sent a friend up to the concession to buy a net and bring it back in a hurry. He kept the fish on until the net arrived and then proceeded to land a nice 38-inch musky.—**District Warden RAYMOND HOOVER (Tioga).**

■ During the last week in July we had our plastic fish display at the Keyser Valley Citizens Fair. The display was sandwiched in by a game of chance on either side. On the last night of the fair a small boy came up the line trying his luck on the games. When he came to our display, he laid some money on the counter and very earnestly asked, "How do you play this game, anyhow?" He seemed to be very disappointed when informed that the display was not up for raffle.—**District Warden CHARLES A. HERBSTER (Susquehanna).**

■ A near fatal boating mishap took place on Lake Wallenpaupack on a Sunday when the big lake was quite rough. A small runabout that was overpowered went out of control near the middle of the widest part of the lake. The father and mother were tipped out of the boat into the lake and a small child was left running free in the boat that was making mad circles. The child had a preserver type vest on and fell to the bottom of the runaway boat. Quick thinking by men from shore brought help. They took ski ropes and lassoed the boat and brought it under control.—**District Warden HARLAND F. REYNOLDS (Wayne).**

■ The current drought situation really intensifies the need and value of stream improvement on many of our trout streams. On a recent foot patrol along a few of the native brook trout streams in my district, any area that Mother Nature had provided the stream bed with a good hole with cover revealed anywhere from ten to twenty trout taking refuge there. The slightest movement from the observer and the fish quickly darted for the cover and safety. Some

fish were observed in areas with a minimum of cover but they are living on borrowed time as the water level keeps receding. It is amazing what odds wild creatures can overcome, but wouldn't you feel greater if you knew that you were giving them a hand by constructing a stream improvement device in your favorite stream? A few hours work as an investment with a tenfold dividend is the best deal any fisherman will ever find.—**District Warden PAUL ANTOLOSKY (Centre).**

■ Due to low water, most of the trout fishermen around Galeton have been spending their time fishing Pine Creek for eels. Some very nice catches of eels are being made. It has been years since eels of any amount have been found in the streams in this area. The stocking program being carried on by the Pennsylvania Fish Commission is really paying off in this area.—**District Warden KENNETH ALEY (Potter).**

■ Since becoming a warden, I have heard some pretty wild fishing stories and rumors on how the Fish Commission operates and how we go out of our way to prevent the fishermen from catching fish. One old timer told me that the fishing wouldn't be very good during a particular week at Glendale Dam because the Commission was holding a fishing school at Black Moshannon and all the fish were netted out and taken up there to make a good showing. A few days later a fisherman said that fishing at Glendale Lake would be poor for the rest of the year. He had heard by way of the grapevine that the Fish Commission had stocked 500 tons of softshell crabs in the Lake. I wonder where we got the 500-ton truck.—**District Warden THOMAS F. QUALTERS (Cambria).**

■ William J. Wright of Brookville has been crowned king of Pennsylvania trout fishermen. Wright took top prize in the Pennsylvania State Trout Fishing Championship held here June 11-19. His prize fish was a 21¾-inch rainbow. Ed Clauser of Brookville took second place with a 20½-inch brown, and Edwin Willis walked off with third prize for a 19½-inch brown trout. More than four hundred fishermen flocked to the North Fork Haven Fish-For-Fun area on the weekend of June 11-12 to compete for top prizes.—**District Warden JAMES F. DONAHUE (Jefferson).**

■ On the opening day of the bass season the largest bass I saw was taken by a woman, and the fisherman with the most bass was a boy too young to own a license. Maybe the so-called fishermen should take a lesson from the women and children.—**District Warden RICHARD ABPLANALP (Mercer-Lawrence).**

STREAM NOTES

■ One evening while patrolling the Juniata River, I stopped to talk with two old time carp fishermen. They told me they had heard of some carp being taken at this spot, but as they had no luck at all they felt the carp had moved on or had been caught. The very next morning I stood on a high bank overlooking this exact spot. The sun was bright, the water clear and with the aid of binoculars, I counted sixty-three carp swimming near the surface. I hope to run into these fishermen soon so I can assure them the fish are still there.—**District Warden JAMES T. VALENTINE** (Huntingdon-Fulton).

■ While on evening patrol with Special Warden Ruddock, as we went down through a wooded area on a back road, we saw two cars pulled off to the side of the road. Two men were standing at the side of the cars talking and had some books and papers in their hands. When we got closer we noticed one man had his shoe off. Sure enough, one was a shoe salesman and was measuring the other fellow for a pair of shoes. The salesman said if you can't catch them at home, you get them on the road.—**District Warden ARTHUR L. WALKER** (Indiana).

■ The number of reported muskies being hooked and released in the Juniata River would certainly indicate a most successful introduction. I have had approximately 40 reports of muskies in the 8 to 12 inch range. These fish undoubtedly are from the 1965 planting and we are continuing the program.—**District Warden RICHARD OWENS** (Mifflin-Juniata).

■ While patrolling the Juniata River I stopped to talk with a fisherman along the bank who was using frogs for bait. I was interested in this bait and was inquiring the size frogs and hooks he used. As he was explaining about the bait, I noticed a small green frog crawl onto a log about 25 feet in front of the fisherman. I asked him if he thought that frog was about the right size and he explained that the frog was an ideal size. While we continued our discussion, the frog perched on the log in front of us. After our lengthy discussion the fisherman offered to pull in his line to show me how he hooked the frogs. When he raised his rod, I noticed that the frog on the log also moved. As you might guess, as he reeled in his line this particular frog also came along. My fisherman friend had not put any split shot on his line, and as a result his bait had climbed out on the log and was watching him.—**District Warden PERRY D. HEATH** (Cumberland-Perry).

■ The famous Shad Fly hatch that occurs on Penns Creek every year around Memorial Day failed to make its appearance on that date this year. The hatch did not come off in any great numbers until June 10. George Harvey, noted fly fisherman and authority, informed me that he has kept records of this hatch as far back as 1931. The latest that they have ever come off before was June 6.—**District Warden PAUL ANTOLOSKY** (Centre).

■ Some years ago during the spring netting season at Pymatuning Lake when the eggs are taken from the warm water fishes for the Commission hatchery, a number of muskellunge were tagged before being returned to the water. Recently a fisherman called me and said he had found a musky in the 30 pound class, measuring 49 inches, floating dead in the lake. This fish had a tag in its jaw which he had removed and he was interested in getting some information about it. Records revealed that it had been stocked in 1953 as a fingerling, was netted in 1958 as a 36-inch female and jaw tagged. This fish had no doubt lived a normal life for 13 years and had never been landed by a fisherman. Its death was attributed to the combination of age and spawning.—**District Warden THOMAS L. CLARK** (Crawford).

■ I stopped at a tackle and bait shop in the Schellsburg area one evening and the proprietor asked why I didn't go to Shawnee Lake and help land a large fish that a fisherman had hooked and had been trying to land for over an hour. I went over to the lake and found Mr. Lawrence Weyant, who had taken a 39-inch, 16½-pound musky. He had battled the fish for over an hour and a half, using only a six pound test line. As many as 35 people at one time had stopped their cars to watch the battle. Mr. Weyant traveled over 2700 yards while landing the fish. During that week Mr. Weyant caught seven largemouth bass and six large walleye from Shawnee Lake.—**District Warden WILLIAM E. McILNAY** (Bedford and Fulton).

■ I was patrolling the Driftwood Branch of the Sinnema-honing Creek one day, when I was flagged down by a Mr. Alden of Emporium, who was very much interested in a mud puddle in the roadway leading from Rt. 120 to the Emporium airport. I stopped and to my amazement found the puddle alive with brown bullheads from three to seven inches long. A shower the day before had created the puddle, and apparently the neighborhood children had taken these fish from the nearby stream and placed them in the puddle. We counted about 75 fish as we removed them and placed them back in the stream.—**District Warden STANLEY G. HASTINGS** (Cameron).

■ We are all aware that boating regulations are made to make the fast growing sport of boating safe for everyone. When a boater is arrested or warned about a boating violation it is always done with the safety of the boater in mind. One incident that highlights this policy happened not too long ago in Crawford County.

A man was arrested on a lake for not having enough life saving devices on board, after which he bought new buoyant vests for his family. Less than a week later he was involved in a boating accident on another lake, which resulted in his boat being completely demolished and his passengers thrown into the water, but now they all had new life saving devices to keep the injured afloat.

Possibly fate caused the accident, but it was the Pennsylvania Fish Commission's watercraft safety program that caused this boat to be properly equipped and ready for these instances.—**District Warden THOMAS L. CLARK** (Crawford).

■ During July I was assisting Commission biologists to shore seine with a sixty foot net at Glendale Dam to get an idea of the reproduction of pike, musky, walleye and bass fingerlings hatched this spring. As we worked a boat approached and over the drone of the motor I could hear someone in the boat say that we were using an illegal net. As the boat came closer I could see Mr. G. L. Norris, Warden Supervisor of the Game Commission's Southwest Region and District Game Protector Ed Campbell. Norris was standing in the bow of the boat ready to jump ashore and apprehend the three of us. We all had a good laugh over the incident, and I was glad to know that men like this were patrolling the lake while I spent my time on other important duties.—District Warden **THOMAS F. QUALTERS** (Cambria).

■ It was good to see how the brown bullheads in Mr. Dave Cruzberger's farm pond had grown after we had reduced the number a year ago. When we seined the pond in 1965 the bullheads were only large heads and small slim bodies. This year there were many in the 10 to 12-inch class and also very many young of the year. We removed about 500 adults and another 500 fingerlings and stocked them in Lakemont Dam.—District Warden **CLOYD W. HOLLEN** (Blair).

■ As further evidence of the success of the Pennsylvania Fish Commission's muskellunge program in Bedford County, which was started in 1958, records reveal that 60 legal ones have been reported caught at Gordon Lake since 1961 and 25 from Shawnee Lake. So far this year 11 have been taken at Gordon Lake, the largest one 44 inches long. Fourteen have been taken at Shawnee Lake, and I feel the season for muskies has not yet been started.—District Warden **WILLIAM E. McILNAY** (Bedford-Fulton).

■ On Saturday, June 25, I had the honor of being chairman of the judges for the annual Beaver County Fishing Derby at Bradys Run Lake, at which time I had the pleasure of meeting the most sportsmen and conservation-minded group of boys and girls. This group caught a total of 306 fish and returned a total of 306 fish to the lake. These children really deserve a salute, and also a word of praise to the Beaver County Conservation League for a job well done.—District Warden **PAUL R. SOWERS** (Allegheny and Beaver).

■ Jefferson County sportsmen claim that drought conditions are setting a record. A spring, located near Brookville, was used to water horses at the turn of the century. It had never gone dry . . . not until July, 1966. Some of the best native brook trout streams in the county are all but dry. These include Callen Run, Sugarcamp Run, Shippen Run and Pekin Run. The Reynoldsville Sportsmen's Club cooperative nursery, which raised 1,000 brook trout in 1965 with an average flow of 25 gallons per minute, finds their water supply below 10 gallons per minute.—District Warden **JAMES F. DONAHUE** (Jefferson).



HUNDREDS OF DEAD FISH like these could be found along the Susquehanna near Wilkes-Barre last month from what was believed to be a combination of low oxygen and a high amount of waste. Area residents said the fish started dying when the river turned a muddy reddish-brown. Shown here with just a few of the estimated 100,000 dead fish are Joseph VanLoon, 15, and William Miller, 15, both of Plymouth. Photo—Courtesy of The Wilkes-Barre Record.

■ While patrolling Silver Lake one day this spring I observed an angler catching catfish. The amusing part of this rather common occurrence was that each time he caught a catfish he kissed it. I learned that this gentleman was 67 years old and apparently came over from another country. He explained that it made him feel so good to catch a fish that he kissed it before he put it in his pail.—District Warden **MICHAEL BADNER, JR.** (Bucks-Northampton).

MR. THOMAS QUALTERS,
State Fish Warden
Ebensburg, Pennsylvania

DEAR MR. QUALTERS:

The 58 Girl Scouts who participated in the recent Ranger Aide training thank you and Warden Cloyd Hollen for participating in this event. The girls rated the fishing part very highly and you have probably started several of them in a new and absorbing leisure-time activity. We have also had many discussions since on how to treat a snake bite.

We especially appreciated your coming early (and in the rain) to give instruction in the smaller groups. Thanks again.

Cordially,
MRS. PAUL MCGREGOR, Director
Field Services
Talus Rock Girl Scout Council, Johnstown

WARM WATER FISHING FUN

Warm water fishing fun and angling instruction for persons of all ages came within easy reach of thousands of anglers when community ponds in eight counties of southeastern Pennsylvania were stocked with catchable size panfish. The plantings are scheduled annually as a part of the commission's expanding warm water program. Instruction in warm water fishing was given by warden teams at the community pond sites.



STOCKING WARM WATER FISH is Robert Burgess of Freemansburg Borough Council.



WITH NET is Andrew Guidan, president, Freemansburg Recreation commission; Elwaad Burger, Cdr. American Legion, Freemansburg; Robert Burgess, Freemansburg Sportsmen and Barough Council, Warden Stanley Paulakovich and Warden Michael Badner, Pennsylvania Fish Commission. Special wardens Charles Schwartz and Bud Grucela assisted.

Water is cheap and, what is cheap, we waste.—Sen. Henry M. Jackson, **PUBLIC UTILITIES FORTNIGHTLY**.

* * *

Angling has been one of man's delights since the beginning of time and still is one of the most popular forms of recreation. In these hectic days of modern living we should perhaps heed the words of Izaak Walton who wrote in his "The Compleat Angler", "God never did make a more calm, quiet, innocent recreation than angling."—Quote

* * *

Littered waters make it dangerous for fishing, swimming and boating.



WARDEN JAMES BANNING receives Pennsylvania Fish Commission Citation and numerous gifts at a testimonial dinner held in his honor at Somerset, on his retirement. At right is William W. Brittan, Chief Enforcement Officer and on right, John Buck Southwest Regional Fish Warden Supervisor, Pennsylvania Fish Commission.



EACH WITH OVER 25 YEARS SERVICE, eldest special fish wardens of District—Warden Bert Euliano (center); at right is Frank McCarthy, Walfdale, Pa., and on the left is James Galligani, Manangahela.



FISH COMMISSION EXHIBIT at Lehighton as a part of the Lehighton Centennial marking the community's 100th year as well as the 100th observance of the Pennsylvania Fish Commission. Jerry Wentz, Lehighton, is fascinated by live fish display.

MOVING DAY AT MEHOOPANY



Strong concern for fish protection by a construction company recently provided a striking example of how industrial cooperation with the Pennsylvania Fish Commission benefits anglers of the state.

Fearing that the building of a cofferdam in the Susquehanna River near Mehoopany might isolate some fish from the main stream, the construction company—Bechtel Corporation—promptly notified District Fish Wardens Stephen A. Shabbick (photo, second from right), Wyoming County, and Richard R. Roberts, (right), Susquehanna County.

The wardens and Bechtel worked out an immediate transfer plan, with Bechtel providing a crew of men to assist as needed in netting and returning the fish to the main stream.

"This was an outstanding example of industrial concern for conservation and cooperation with state officials," Warden Shabbick said.

Bechtel Corporation is general contractor for The Charmin Paper Products Company plant now being built in Wyoming County.

A Third Grader Writes An Essay On Fishes & Facts And Makes A Grade of 100%

Rainbow trout have black spots in their tails. A brook trout has white on his fins. A splake is half brook trout and half lake trout. The tiger trout is half brook trout and half brown trout. Their eggs ain't no good. Otters eat fish. Wall-eyes are not pike they belong to the perch crowd. A fish nest is a redd. The names of the fins on a fish are, dorsal, anal, pectoral, adipose and caudal. Fish can swim without fins but not too good. A catfish has whiskers but in the book they are called barbells. Turtles make good soup. I like it. Chain pickerel spawn first. Next is the perch. Next is the sunfish and last is the golden shiner. Most of them eat each other but the golden shiner he eats algae. Trout don't like water over 70 degrees. They can't get their breath to good and they die and it stinks up the creek. That's about all I know about fish technology. But I am going to learn more because my father wont go fishing without me and I love to fish and learn about fish.

JUNIOR McBETH, Age 8

NEW ACCESS ON HARVEYS LAKE



FISH COMMISSION check for \$28,000 is handed owner Joseph P. McCaffrey by Glen Spencer, chief, Real Estate Division, Pennsylvania Fish Commission. Others at the transaction site were: (l-r) Attorney Jennings, James McCaffrey, John Stenger, Joseph McCaffrey, Glen Spencer, Clair Fleeger, Regional Warden Supervisor and Thomas Garrity realtor.

Another access area on Harvey's Lake, Luzerne County, was added to more than a hundred owned and controlled by the Pennsylvania Fish Commission. The 258-foot waterfront property was purchased from Joseph P. McCaffrey for \$28,000. When development is complete, facilities will include boat launching ramp, landing dock, sanitary accommodations and a parking area.

• • •

Delinquency

Each time I read about a boy
Who's gone astray, I find
It difficult to put aside
The thoughts that come to mind.

Would things have been far different
If he, the boy, had had
The beneficial guidance of
An understanding dad?

Was he denied, from day to day
Throughout the years, the joy
That every understanding dad
Can bring to any boy?

Did he go through his childhood days
Without declaring: "Dad,
That fishing trip was lots of fun—
The best I've ever had!"

Each time I read about a boy
Who goes astray, I find
It difficult to put aside
The thoughts that come to mind.

Bert Pruitt

• • •

Every Litter Bit Hurts YOU!

DIRECTORY OF BLUE BOOK AGENTS

Additional places for subscribing to the **PENNSYLVANIA ANGLER** and where the latest and newest Pennsylvania Fish Commission **FISHING REPORTS** and **INSTANT INFORMATION** are available.

Allegheny County—Glenn's Sports and Hobby Shop, 4129 Brownsville Road, Pittsburgh, Penna.

Berks County—Kagen's Inc., Reading, Penna.

Blair County—George W. Jackson

Bucks County—Andrew Maroney—Andy's Sport & Hobby Shop, Yardley, Penna.

Cambria County—Shoff Sporting Goods, Ebensburg, Penna.

Chester County—Daniel W. Bullock, Berwyn, Penna.

Franklin County—P. Paul Overcash, Chambersburg, Penna.

Jefferson County—Deman's Sporting Goods, Brookville, Penna.

Lackawanna County—Eynon Drug, Eynon, Penna.

Lackawanna County—Edward Rebar, Throop, Penna.

Lebanon County—Joseph Waybright, Box 121-A, Annville, Pa.

Lehigh County—Gerald T. Chapleski, Allentown, Penna.

Lehigh County—Paul Daubanspeck, Allentown, Penna.

Lehigh County—Pete Nestor, Nestor's Sporting Goods, Inc., Allentown, Penna.

Montgomery County—Sidney Conrad, 13 Woodland Drive, Lansdale, Pa.

Northampton County—Charles Schwartz, Bethlehem, Penna.

Schuylkill County—Joseph Kopena, Mary-D, Penna.

Schuylkill County—James M. Hill, New Philadelphia, Pa.

Warren County—F. J. Erich Sporting Goods Store, Irvine, Penna.

York County—Harry Haines, Lincoln Highway Garage, York, Penna.

York County—Squab's Outdoor Shop, York, Penna.

Jip-O'-The-Month

By C. BOYD PFEIFFER



RIG YOUR OWN WORMS

If you fish for bass much, you've probably already considered rigging your own worms and maybe even done a few. If you haven't tried this yet, you should. Store bought rigged worms are expensive and not always exactly the way you want them—either the hook is too small or too big or the multiple hooks hang you up on the bottom too much. Most expert bass fishermen agree that the best rig is a large single hook imbedded in the worm a bit back from the head—it doesn't hang up as much as multiple hooks and seems to hook the highest percentage of fish. The best way to accomplish this is to get a large utility or upholstery needle, thread it with braided line and run the needle through the worm from the head end. Bring the needle out where the bend of the hook will be. Tie on the proper size hook—usually a 1/0—with a strong improved clinch knot. Then pull the line and hook back into the worm. The remaining line can be tied off into a short loop or a small barrel swivel tied on. True, there is no weedless attachment. But your hooking will be surer and if you do lose a rig they are cheap enough to make without it being a major loss. Keep some plastic worms, line, hooks and a needle in your tackle box and you'll always be ready for action.

• • •

THINK IT OVER

People who cannot find time for recreation are obliged sooner or later to find time for illness.

A good fisherman possesses much faith and hope or he would not fish. He gains even in charity when he listens to other fishermen.—Herbert Hoover, *Fishing for Fun and to Wash Your Soul* (Random House).

To those who have not experienced the urge to go fishing there is something quite incomprehensible in the hold the sport has upon so many people. Even its devotees often find the fascination hard to explain, and each one has a personal theory about it . . . Whatever the reasons, those who once go fishing almost invariably return.—Dorothy Noyes Arms, *Fishing Memories* (Macmillan).

FREE COLOR CHART COMMON FISHES OF PENNSYLVANIA WITH ALL NEW AND RENEWAL SUBSCRIPTIONS TO *Pennsylvania Angler*

Enclosed is \$..... for my (New) (Renewal)
(Gift Subscription)

1 year (12 issues) \$2.00

3 years (36 issues) \$5.00

Please send to:

Name

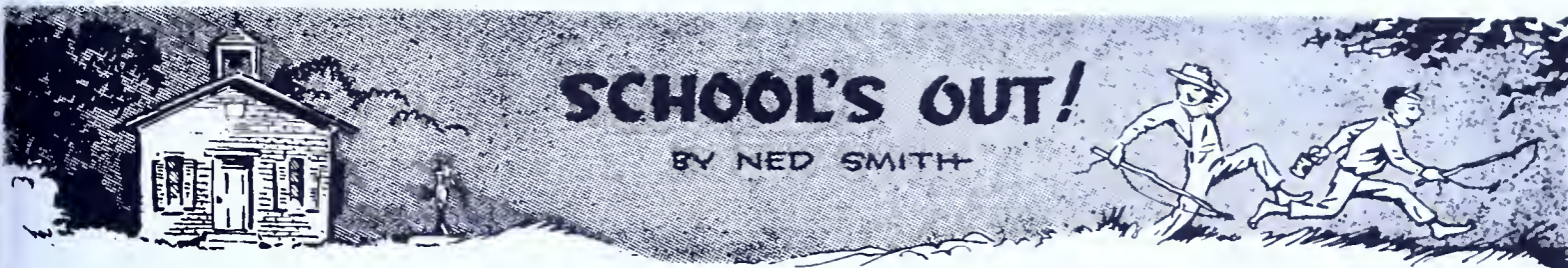
Address

Town Zip Code

Make check or money order payable to the Pennsylvania
Fish Commission

Mail to—PENNSYLVANIA FISH COMMISSION
HARRISBURG, PA.

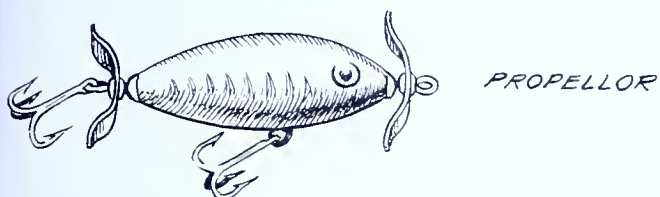
Cash sent at your own risk. STAMPS NOT ACCEPTABLE.



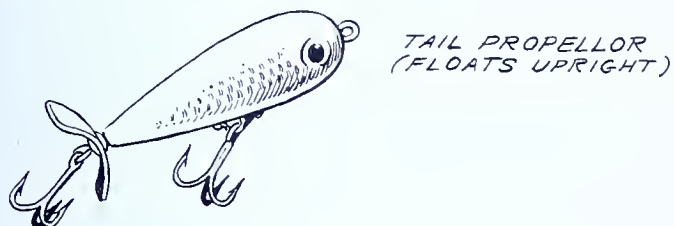
BASS ON TOP



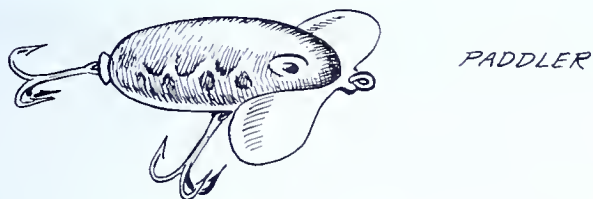
POPPER



PROPELLOR



TAIL PROPELLOR
(FLOATS UPRIGHT)



PADDLER



WOBLER

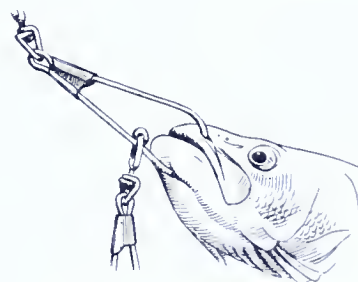
SURFACE PLUGS

streams and ponds are high try casting your plug into shallow water in the openings between the shoreline weeds, in any nook along the bank, or over submerged weedbeds. If the water is low or normal you should try the deeper water, too. In streams, work your plugs through the eddies behind and in front of rocks, in deep, slow water over submerged boulders, all around "grass patches" and small islands, and over stony shallows.

Bass sometimes hit a fast-moving plug, but usually prefer surface plugs worked very slowly, especially large-mouths. Cast to a good spot, let your lure lie there for a while until the rings have disappeared from the surface, then twitch it ever so gently. Wait six or eight seconds, then give it a quick twitch. Bring it back to the boat in a series of twitches and pauses.

These twitches will cause popping plugs to pop, propellers to spin, and upright plugs to kick up their heels. Paddling plugs must be worked in gentle nudges to bring out the proper action.

Keep an eye on that plug at all times so you're not taken unawares by a gentle strike. Keep the hooks sharp, and work that plug slowly. There's little more to fishing surface plugs, except what practice and experience will teach you.



STRING 'EM UP

When fishing from a boat one of the handiest ways to keep your catch in good condition is by hanging the fish in the water on a stringer. Cord stringers run through the gills soon kill the fish. A far better type is the chain with a separate safety-pin hook for each fish.

The stringer is attached to the boat by the hook on the end of the chain. String up each fish by passing the sharp end of a hook through both its jaws, behind the bony rims. Attach the stringer where it's precious cargo will be out of the way of busy paddles, oars, poles, or motors. Before moving to another spot bring the stringer aboard. Many a nice catch has been torn from a fast-moving motorboat, or scraped off on a rock in shallow water.

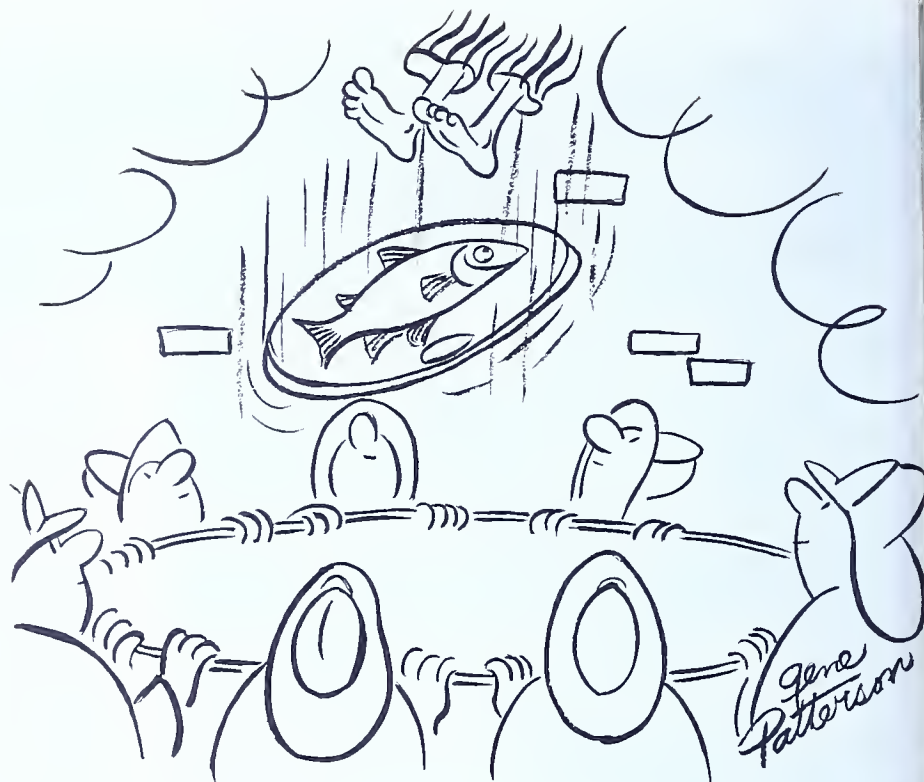
Early October often produces some of the most exciting fishing of the year. I'm speaking of bass fishing—large-mouth and smallmouth—with surface plugs.

In the December 1965 *ANGLER* I told you how to make a floating plug that is a killer on bass. Other very good types are shown in the drawing. These can be bought in a variety of weights, but for most purposes the $\frac{1}{4}$ ounce size is best. If this is too light for your bait casting outfit you may have to use the $\frac{1}{2}$ or $\frac{3}{4}$ ounce size. Spinning outfits, on the other hand, may work nicely with the smaller $\frac{1}{4}$ ounce plugs, which are sometimes very effective on bass and panfish as well.

Where to fish depends upon water conditions. If the

"His

PENNSYLVANIA ANGLER



Citation Fish Comes First!

MINIMUM CITATION SIZES:

Species of Fish	Minimum Length in Inches	Species of Fish	Minimum Length in Inches	Species of Fish	Minimum Length in Inches
American Shad	25 in.	Calfish	30 in.	Northern Pike	36 in.
Bluegill	11 in.	Crappies (includes black and white)	15 in.	Rainbow Trout	27 in.
Brook Trout	17 in.	Eel	40 in.	Rock Bass	11 in.
Brown Trout	28 in.	Fallfish	18 in.	Sheepshead	25 in.
Bullhead	15 in.	Lake Trout	30 in.	Smallmouth Bass	20 in.
Carp	36 in.	Largemouth Bass	23 in.	Walleye	30 in.
Chain Pickerel	25 in.	Muskellunge	45 in.	Yellow Perch	14 in.

RULES:

Fish must be caught in Pennsylvania public waters by legal methods during seasons open for the taking of the species involved.

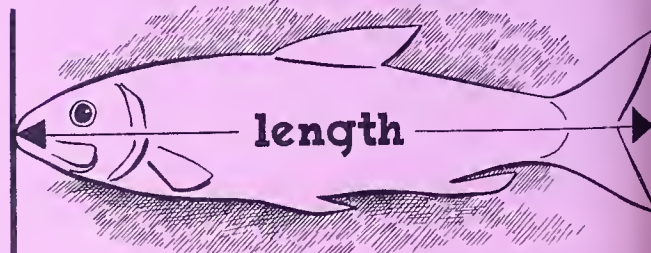
Fish must be measured, weighed and recorded by fishing license issuing agent or tackle store within the state by the owner, manager, or an authorized agent of the respective establishment.

Photographs are desirable as further proof of catch but are not required.

Non-residents as well as residents are eligible for citations if fish are caught under the above conditions.

Only fishing citation applications received within 90 days from date of catch will be honored.

HOW TO MEASURE:



APPLICATION FOR PENNSYLVANIA ANGLER FISHING CITATION

The Editor—Pennsylvania Angler
Pennsylvania Fish Commission, Harrisburg, Pa.

Date.....

Please send me the Pennsylvania Angler Magazine's Fishing Citation with the inscribed data listed below:

Name (please print)

Address City..... State.....

Species Length Weight

Type of Tackle

Bait or Lure Used

Where Caught.....in.....County

Date Caught Catch Witnessed by

Measured and Weighed by

At

6
November 1966 Report to the Fishermen
Pennsylvania **ANGLER**

 Pennsylvania
Fish Commission

1866  1966



One Hundred Years of service in
the conservation of Pennsylvania's
wildlife resources.



THE PENNSYLVANIA FISH COMMISSION

AT THE

TURN OF A CENTURY

The Pennsylvania Fish Commission celebrated its 100th Anniversary this year. For most sportsmen it will be difficult to believe that way back in the "good old days" in 1866, it was necessary to have an agency established for the purpose of protecting our fishery resources. However, the records show Governor Andrew Curtin signed into law on March 30, 1866, legislation that marks the birth of our present day Fish Commission.

During its 100 years of existence the Fish Commission has grown from a one man operation to an agency employing approximately 300 people. Initially the fisheries program was supported by legislative appropriations. However, one year the General Assembly overlooked passing the appropriation. Sportsmen of the State met in Harrisburg and pledged contributions to keep the program going.

By 1921 the Department of Fisheries, as it was known then, had grown to a sizeable organization. A fishing license fee was established and the revenues derived became the source of financial support for the program.

In the 44 years from 1922-1966, these license dollars have not only paid for the operation and maintenance of a program to perpetuate our fishing resources but have financed construction of several fish hatcheries and paid for acquisition and construction of over 4000 acres of lakes and over 70 public access areas on fishing and boating waters. The assets of the Pennsylvania Fish Commission rank in the 50 million dollar bracket, thus the fishermen of Pennsylvania can be justly proud of their license fee investment and of the Pennsylvania Fish Commission's management of this fund.

The big question now is—where is the fishery program going in the next 100 years?

Frankly, things never looked brighter for the fisherman. The amount of available fishing waters in Pennsylvania is growing every year. With the passage of stronger anti-pollution legislation and the effects of long range pollution abatement programs being felt, miles of formerly "dead" water are coming to life for fishing use. But even more exciting is the fact that in less than ten years the acreage of fishable lake waters in Pennsylvania will almost double—going from 57,000 acres today to about 111,000 acres in

1975. These new waters are not just planner's dreams. Many of the impoundments are under construction today. Some are about completed and will be "favorite" fishing spots in a year or two. On others the land is being acquired with construction scheduled in the near future.

To meet the rapidly growing demands made on it, the Pennsylvania Fish Commission has launched a long range program that includes comprehensive formal training for all field officers; redevelopment of our trout production system and establishment of a salvage and production program for needed species of warm water fish, especially muskellunge, northern pike and walleye and catchable size pan fish. Additionally, the Commission's program of fish management will be implemented starting with special work on the Delaware River, Lake Erie and on trout management problems, and will be expanded in other areas as time goes on.

Cooperative programs with sportsmen on trout rearing and stream improvement are under way as are greatly expanded programs of public relations. For the first time in Commission history, a strong effort is being made to reach both young and old Pennsylvanians with the story of fishery conservation, emphasizing the sporting and recreational aspects of all types of fishing.

Strides have been made in the Fish Commission's boating program. The main emphasis has been on safety and increased boating knowledge.

Briefly, it can be said the Fish Commission is looking ahead, planning and building for a greatly expanded development of our fishery resources that all Pennsylvanians can enjoy this relaxing but exciting form of outdoor recreation.

Robert J. Bielo
Executive Director
Pennsylvania Fish Commission

**PENNSYLVANIA
FISH COMMISSION
DIRECTORY**

EXECUTIVE OFFICE

ROBERT J. BIELO
Executive Director

GORDON TREMBLEY
Assistant Executive Director

EDWARD R. THARP
Assistant Executive Director
Watercraft Safety

WARREN W. SINGER
Assistant to Executive Director

PAUL F. O'BRIEN
Administrative Officer

JOHN M. SMITH
Comptroller



DIVISION DIRECTORS

KEEN BUSS
Research and Fish Management
R. D. 1—Box 200-C
Bellefonte, Pa.—16823

HOWARD L. FOX
Propagation and Distribution
Bellefonte, Pa., R. D. 3—16823

GLEN SPENCER
Real Estate
Harrisburg

EDWARD MILLER
Engineering
Bellefonte, Pa., R. D. 3—16823

WILLIAM W. BRITTON
Law Enforcement
Harrisburg

ARTHUR BRADFORD
Pathology
Bellefonte, Pa., R. D. 1—Box 200-C
16823

GEORGE FORREST
Public Relations
Editor
Harrisburg

TOM EGGLE
Staff Writer-Photographer



REGION ONE

S. CARLYLE SHELDON Warden Supervisor
Tionesta 16353 Phone: 814-755-8811

REGION TWO

JOHN I. BUCK Warden Supervisor
R. D. 2, Somerset, Pa. Phone: 814-445-4913

REGION THREE

CLAIR FLEEGER Warden Supervisor
351 Terrace St., Honesdale, Pa.,
Phone: 717-253-3724

REGION FOUR

HAROLD CORBIN Warden Supervisor
R. D. 2, Annville, Pa.,
Phone: 717-273-2601, Ex. 86
I. G. M. R. 17003

Pennsylvania Angler

Published Monthly by the

PENNSYLVANIA FISH COMMISSION
COMMONWEALTH OF PENNSYLVANIA

William W. Scranton, Governor



PENNSYLVANIA FISH COMMISSION

GERARD J. ADAMS, President Hawley
WALLACE C. DEAN, Vice President Meadville

CLARENCE DIETZ Bedford
JOHN W. GRENOBLE Carlisle
HOWARD R. HEINY Williamsport
RAYMOND M. WILLIAMS East Bangor
DOUGLAS MCWILLIAMS Bear Gap
ROBERT M. RANKIN Galeton
R. STANLEY SMITH Waynesburg

NOVEMBER, 1966

VOL. 35, NO. 11

REPORT TO THE SPORTSMEN



Cover art by John Clark

POSTMASTER: All 3579 forms to be returned to Dunlap Printing Co., Inc., Cherry and Juniper Sts., Philadelphia, Pa. 19107.

The PENNSYLVANIA ANGLER is published monthly by the Pennsylvania Fish Commission, South Office Building, Harrisburg, Pa. Subscription: One year—\$2.00; three years—\$5.00; 25 cents per single copy. Send check or money order payable to Pennsylvania Fish Commission. DO NOT SEND STAMPS. Individuals sending cash do so at their own risk. Change of address should reach us promptly. Furnish both old and new addresses. *Second Class Postage paid at Harrisburg, Pa.* Neither Publisher nor Editor will assume responsibility for unsolicited manuscripts or illustrations while in their possession or in transit. Permission to reprint will be given provided we receive marked copies and credit is given material or illustrations. Communications pertaining to manuscripts, material or illustrations should be addressed to the Pennsylvania Fish Commission, Harrisburg, Pa. **NOTICE: Subscriptions received and processed the 10th of each month will begin with the second month following.**

Report to the Sportsmen

FISCAL YEAR JULY 1, 1965 TO JUNE 30, 1966



THE Pennsylvania Fish Commission observed its 100th Anniversary this year. Records show Governor Andrew Curtin signed into law on March 30, 1866, legislation that marked the birth of the present day Fish Commission.

The Anniversary year was announced when Governor William W. Scranton proclaimed the week of March 27 to April 2, 1966 as Pennsylvania Fish Commission Centennial Week in honor of the 100 years of service conserving the natural resources of Pennsylvania.

The Pennsylvania Federation of Sportsmen's Clubs honored the anniversary at their March 25, 1966 dinner in Harrisburg with U. S. Fish & Wildlife Commissioner Clarence F. Pautzke as speaker.

The Pennsylvania Outdoor Writers Association also honored the Commission's Centennial at their Spring, 1966 meeting.

Numerous articles and accounts of the history of the Fish Commission appeared in newspapers throughout the state, over the air via radio and TV and in the "Pennsylvania Angler."

Posters, bumper stickers, pamphlets, dining place mats,

beverage coasters, gold emblems, plus many more mementos to honor the anniversary year were distributed to conservation organizations, clubs, Scouts, state legislators and officials.

A special centennial issue of the Pennsylvania Angler appeared in January to commemorate the anniversary.

A popular feature of the celebration was the introduction of the Pennsylvania Fish Commission "Centennial Streamer Fly," an original tying of Sam Slaymaker, Lancaster, Pa. While no new record fish were reported caught on the new creation, the fly did prove a good trout attractor throughout this and other states.

All divisions of the Fish Commission participated and assisted in the Anniversary Year activities. The warden force and their deputies did an outstanding job in bringing the all-time accomplishments and records of the Commission to the public through many outlets—including fairs, shows and demonstrations throughout the Commonwealth.

The Commission is grateful for the reception and statewide enthusiasm shown by the people of Pennsylvania.



ADMINISTRATION

THE main functions of the administrative program are policy recommendations, personnel, reports, records, liaison between other state and federal agencies, review and issuance of many types of licenses, permits, regulations preparation, legislative study and reporting, and most important, budget analysis and preparation.

In this fiscal year the fishing license sales in all categories increased with a resulting increase in the fish fund revenue. A supplement to the fiscal year's budget made it possible for the Commission to acquire replacements for worn-out equipment and vehicles for most of the programs. Additional funds were also budgeted for some needed hatchery repairs and renovation.

The personnel section of the program acts as a liaison between the operating programs, the State Civil Service Commission and the Office of Administration. During this fiscal period a total of 336 personnel transactions were processed. A large number of these personnel transactions were a result of Legislative action which provided for an across-the-board salary adjustment for all employees effective July 1, 1965. Presently there are 98 employees covered under the State Civil Service program. This is an increase of 11 receiving coverage over the previous fiscal year. The total salary complement increased from 263 in 1964-65 to 270 in 1965-66. This increase was due primarily to additional personnel employed to participate in the Project 70 program.

The following licenses and permits were reviewed and issued:

Artificial Propagation Licenses	225
Live Bait Dealer's Licenses	248
Transportation Permits	72
Dynamite Permits	10
Draw Down Permits	123
Regulated Fishing Lake Licenses	274
Net Permits	272
Scientific Permits	69

The following requests for permits were reviewed and acted upon in conjunction with other state agencies:

Mine Drainage	431
Highway Channel Changes	174
Construction of Dams	27
Water Allocations	22
Stream Clearance Projects	18
Relocation of Channels	17
Dredgings	14

Legislation passed during the 1965 Session of the Legislature which amended the Fish Law was as follows:

Act No. 134—Amends the Act of December 15, 1959, known as "The Fish Law of 1959," Section 30, Legal Sizes—No person shall have in possession striped bass or rock fish less than eighteen inches in length.

Act No. 280—Amends "The Fish Law of 1959," Section 225, to read: The license shall become void upon the thirty-first day of December next following the date of issue. However, all licenses issued for the year 1965 shall be valid until February 28, 1966.

Act No. 165—This act makes an editorial correction, Closed Season, by changing penalty from Sections 71 and 72 to Sections 81 and 82.

—PAUL F. O'BRIEN

PROPAGATION AND DISTRIBUTION

OUR production records show a slight decrease in numbers but a substantial increase in total poundage as compared to the 1964-65 fiscal year distribution.

A substantial savings in transportation costs in the distribution program was realized due to the addition of six (6) new modern transportation tanks that were placed in service at the beginning of our trout stocking program this past spring. Several more are scheduled for construction and will be added to the fleet in the spring of 1967, which will further reduce the costs of this phase of the program.

The renovation of the Huntsdale hatchery is progressing rapidly and extensive research and planning is being conducted regarding this program, as it will affect other State hatcheries.

Many fry and fingerling of the Esocid species were shipped via air freight for distribution this past year, by Commercial Air Lines and chartered flight, resulting in a substantial monetary saving to the Commission. It is planned to expand this air flight service in future years.

For the first time in the history of the Pennsylvania Fish Commission, a Fish Culture Workshop or School was held the past winter and spring. This program was under the direction of Mr. Keen Buss, Director of Research and Fish Management for the Pennsylvania Fish Commission. Instructors included Mr. Buss and his staff as well as many noted fisheries personnel from other States and the Federal Fish and Wildlife Service. Ten fish culturists from the propagation activity attended this first workshop. It is planned to continue this much needed and outstanding program in future years. Plans are in progress at the present time for the second such workshop to be held this coming winter and spring.

Attached is a summary report of all fish stocked in the waters of Pennsylvania, including trout stocked by the Federal Hatcheries in the State-Federal Cooperative Trout Stocking Program and by the Cooperative Nurseries.

—HOWARD FOX

RECORD OF TROUT STOCKED

Fiscal Year July 1, 1965-June 30, 1966

STATE-FEDERAL COOPERATIVE TROUT STOCKING PROGRAM

STATE HATCHERIES

Species	Fry		Fingerling		Adult		Totals	
	Number	Weight	Number	Weight	Number	Weight	Number	Weight
Brook Trout	-0-	-0-	295,661	5,906.69	436,246	118,348.16	731,907	124,254.85
Brown Trout	-0-	-0-	259,263	2,437.47	994,090	330,336.16	1,253,353	332,773.63
Rainbow Trout	-0-	-0-	166,363	1,811.87	749,106	281,939.66	915,469	283,751.53
Lake Trout	-0-	-0-	17,400	162.74	-0-	-0-	17,400	162.74
Loch Leven (Brown)	-0-	-0-	2,500	61.00	-0-	-0-	2,500	61.00
Splake	-0-	-0-	23,000	53.00	3,700	597.00	26,700	650.00
Kokanee	-0-	-0-	157,900	213.00	-0-	-0-	157,900	213.00
Albino Brook	-0-	-0-	-0-	-0-	16	7.33	16	7.33
TOTALS	-0-	-0-	922,087	10,645.77	2,183,158	731,228.31	3,105,245	741,874.08

FEDERAL HATCHERIES

Brook Trout	-0-	-0-	-0-	-0-	181,525	28,251.00	181,525	28,251.00
Brown Trout	-0-	-0-	-0-	-0-	119,655	28,627.00	119,655	28,627.00
Rainbow Trout	-0-	-0-	-0-	-0-	271,595	65,957.00	271,595	65,957.00
TOTALS	-0-	-0-	-0-	-0-	572,775	122,835.00	572,775	122,835.00

COOPERATIVE NURSERIES

Brook-Brown & Rainbow	-0-	-0-	38,300	2,046.00	199,685	71,931.00	237,985	73,977.00
TOTALS	-0-	-0-	38,300	2,046.00	199,685	71,931.00	237,985	73,977.00
GRAND TOTAL ALL TROUT	-0-	-0-	960,387	12,691.77	2,955,618	925,994.31	3,916,005	938,686.08



RECORD OF WARM WATER SPECIES STOCKED

Fiscal Year July 1, 1965-June 30, 1966

STATE HATCHERIES

Species	Fry		Fingerling		Adult		Totals	
	Number	Weight	Number	Weight	Number	Weight	Number	Weight
LM Bass	-0-	-0-	402,164	7,706.99	2,983	1,573.70	405,147	9,280.69
SM Bass	-0-	-0-	5,000	109.00	120	97.00	5,120	206.00
Walleye	12,900,000	-0-	28,765	535.60	821	1,280.58	12,929,586	1,816.18
Muskellunge	351,000	-0-	77,805	1,729.40	-0-	-0-	428,805	1,729.40
Tiger Muskellunge	-0-	-0-	12,107	165.75	-0-	-0-	12,107	165.75
Northern Pike	1,200,000	-0-	3,451	485.83	363	938.00	1,203,814	1,423.83
Brown Bullheads	-0-	-0-	1,432	205.02	14,800	8,432.68	16,232	8,637.70
Catfish	-0-	-0-	90	-0-	892	1,102.00	982	1,102.00
Channel Catfish	-0-	-0-	-0-	-0-	1,471	1,715.93	1,471	1,715.93
Yellow Perch	-0-	-0-	2,071	17.15	2,579	713.73	4,650	730.88
Black Crappie	-0-	-0-	50	-0-	3,282	3,140.50	3,332	3,140.50
White Crappie	-0-	-0-	3	.30	15,166	12,950.00	15,169	12,950.30
White Bass	-0-	-0-	-0-	-0-	4	1.04	4	1.04
Rock Bass	-0-	-0-	-0-	-0-	1	.28	1	.28
Pickrel	-0-	-0-	10	-0-	209	296.40	219	296.40
Bluegills	-0-	-0-	3,365	13.42	3,907	1,182.79	7,272	1,196.21
Sunfish	-0-	-0-	-0-	-0-	445	137.26	445	137.26
Carp	-0-	-0-	-0-	-0-	4,001	14,401.75	4,001	14,401.75
Suckers	-0-	-0-	2	.10	226	1,001.00	228	1,001.10
Minnows	-0-	-0-	75	-0-	64	4.26	139	4.26
Alewives	-0-	-0-	21,000	273.00	-0-	-0-	21,000	273.00
Gizzard Shad	-0-	-0-	-0-	-0-	1	.75	1	.75
TOTALS	14,451,000	-0-	557,390	11,241.56	51,335	48,969.65	15,059,725	60,211.21
GRAND TOTAL ALL SPECIES							18,975,730	998,897.29

RESEARCH AND FISH MANAGEMENT

Research and management are becoming more important each year in improving fishing. Additional knowledge derived from the research at the Benner Spring Fish Research Station, and cooperative agencies, has helped to improve fish culture and fish management in the Commonwealth. Applications of these innovations lead to better fishing.

A valuable contribution was made to fish culture with the publication of "Advances in the Use of Air in Taking Eggs From Trout" in the PROGRESSIVE FISH-CULTURIST. The mechanical spawning of trout increases egg viability and decreases the chance of injuring the brood fish.

The bio-assay study on the effect of certain physical and chemical conditions on American shad eggs and larvae was completed. A final report on the results was submitted. One lot of shad eggs was hatched at the Linesville Hatchery. The larvae produced were reared to fingerling size and transferred to Benner Spring where they were held for a year by feeding trout pellets.

The evaluation of aquatic herbicides continued. The Benner Spring Fish Research Station contributed to the publication AQUATIC PLANTS—MANAGEMENT AND CONTROL IN PENNSYLVANIA which was published by the Agricultural Extension Service of the Pennsylvania State University.

The cooperative project which was initiated last year with the Pennsylvania State University Cooperative Extension Service on the effect of aquatic life from DDT spraying was continued. The spraying took place in the Spring of 1965 in Potter and Tioga Counties. Samples of fish, crayfish, water, and soils were collected prior to spraying operations and at intervals since that time. Particular attention was directed toward possible adverse effects on trout reproduction as well as any build-up of DDT in the tissues of trout and crayfish.

A further cooperative project with the Pennsylvania State University Cooperative Extension Service involved a study of pesticide levels in trout feeds and their effect, if any, on the fish tissue levels of pesticides.

The Benner Spring Fish Research Station continued to give advice on methods of control of fish diseases in state, commercial, and sportsmen-operated cooperative nurseries. Commercial hatcheries continued to seek advice on hatchery construction and modern fish cultural practices.

As many management surveys were undertaken as the limited personnel could conduct.

The studying of lake profiles to determine the thermal and chemical characteristics were continued to 32 additional lakes. These data were used to help to determine the fitness of a water area for trout, salmon or warm-water fish species.

Beaver Lake in Lycoming County and Somerset Lake in Somerset County were treated successfully for heavy growths of aquatic weeds.

Several creel censuses were conducted on the Susquehanna River system to determine the utilization of these waters by anglers. One census in the vicinity of the proposed industries on the North Branch of the Susquehanna River will be invaluable to compare recreation benefits as compared to industrial economy, and to prepare a base for future studies of the effect of industries on the river.

The kokanee project at Upper Woods Lake was continued with the aid of hatchery personnel. Kokanee were again spawned and restocked in the lake.

Fifty-four Project 70 sites were investigated. These consisted of dam sites, existing lakes, springs for hatchery sites, and access areas.

The Atlantic Fishing Contest was continued this year and again 10,000 trout and 10,000 warmwater fish were tagged. After two years of tag returns, valuable information will be available for more intensive fish management.

The biologists also contributed to the education and information program of the Fish Commission by giving lectures and conducting workshops for college groups, scouts, science clubs, teachers' groups and civic organizations.

Other routine duties such as fish salvage, stream shocking, and pollution investigations took much of the time of the biologists. The trouble shooting chores are expanding as the population and industry grows.

Cooperative studies by geneticists at the Pennsylvania State University have resulted in establishing the inheritance patterns of protein differences in the serum, eye lens, and other tissues of trout. Variability (genetic polymorphism) of these proteins permits the detection of racial differences in species based on the different relative frequencies of these genetic markers in different hatchery and natural populations. Association of these protein differences with growth and reproduction has been found in at least one case.

The iron-binding serum protein, transferrin, shows inherited differences within brook, lake, and rainbow trout. In brook trout one of these transferrin types has been shown to lower survival of young fish; in crosses of hybrids of lake x brook back to brook trout a transferrin type from lake trout has been shown to be associated with faster growth rate.

Theoretical studies on variations of the enzyme lactic acid dehydrogenase (LDH) in inbred lines of trout species have permitted the best definitive information on genetic control of this enzyme in any animal species to date.

The Cooperative Fishery Unit of the Pennsylvania State University which is partly supported by Fish Commission funds has been working essentially in two areas of aquatic biology: (1) fish behavior and (2) water quality.

The research projects of the Unit are as follows: Pond morphometry as it is related to the maintenance of bass and golden shiner population; the bowfin as a predator on bluegills; the behavior of smallmouth bass as related to cover in flowing water; effects of petroleum brine on trout streams; comparisons of eye lens of stunted and normal population of bluegills; effect of the insecticide Sevin and the biological control spray, *Bacillus thuringien-*

RESEARCH AND FISH MANAGEMENT

(Concluded)

sis on an aquatic ecosystem; aquatic life as related to natural acid streams and as related to acid mine streams; the effect of rotenone on stream invertebrates; distribution patterns among fish in reservoirs.

A Master of Education student is determining the diameter and weight differences that may be expressed in the eye lens of the stunted and normal bluegills. His thesis is expected to be completed this winter. Another Master of Education student has taken for his thesis, "The Effect of Rotenone on Stream Invertebrates." This work will be completed this winter.

A Master of Science student is studying the covering preference of smallmouth bass in various flow rates. A stream is simulated in a flume built in Cedar Creek near Linden Hall.

A study of season changes in aquatic invertebrates affected by petroleum brine has been continued in the Allegheny National Forest.

The Unit is presently determining the effect of the 1965 Sevin spraying of a water course in Potter County. The stream was sprayed so such a study could be made. No fish were killed.

Invertebrate repopulation studies are also in progress. These are expected to be completed this winter.

The Unit has been following season changes in acidity and changes in aquatics in a natural acid stream.

The Unit has been cooperating with the Benner Spring Fish Research Station in the testing of acid neutralizing ability of limestone in a natural acid stream and in taking a preliminary inventory of a mine acid stream preparatory to installing a liming apparatus.

Unit personnel have taken training in SCUBA so that they will be able to make under water observations of fish distribution in reservoirs, especially in winter under an ice cover.

A Fish Culture Workshop was conducted at the Benner Spring Fish Research Station for personnel from the hatcheries of the Pennsylvania Fish Commission. This workshop was designed to bring the latest information on fish culture to this group. Nutrition, spawning, care and rearing, and diseases of fish were some of the topics included in the curriculum. In addition, specialists in certain aspects of fish culture and related subjects gave lectures. Mr. Harvey Willoughby, Assistant Chief of Hatchery Production, U. S. Fish and Wildlife Service; Mr. Robert Martin, Chief of Fisheries, Virginia; Mr. Earl Stiles, Regional Fisheries Manager, New York; Dr. Herbert Wahl and Dr. Robert Butler, Pennsylvania State University; Dr. Gary Rumsey, Chief of Research, Agway, Inc.; Mr. John Maxwell, Manager, Lamar National Fish Hatchery, U. S. Fish and Wildlife Service; and Mr. Lynn Hutchens, Assistant Chief of Hatcheries, U. S. Fish and Wildlife Service were among the invited speakers who aided the Benner Spring staff with the school.

Members of the workshop also received instructions on warmwater species from Shyrl Hood at the Linesville Hatchery and Leroy Sorenson at the Union City Hatchery.

In order to meet the increasing demands for technical assistance on stream improvement projects, assistant warden supervisors attended a school at the Benner Spring Fish Research Station to learn the techniques of installing stream devices. The sportsmen of each warden supervisor's region now have a man capable of giving them technical advice on stream improvement in their area.

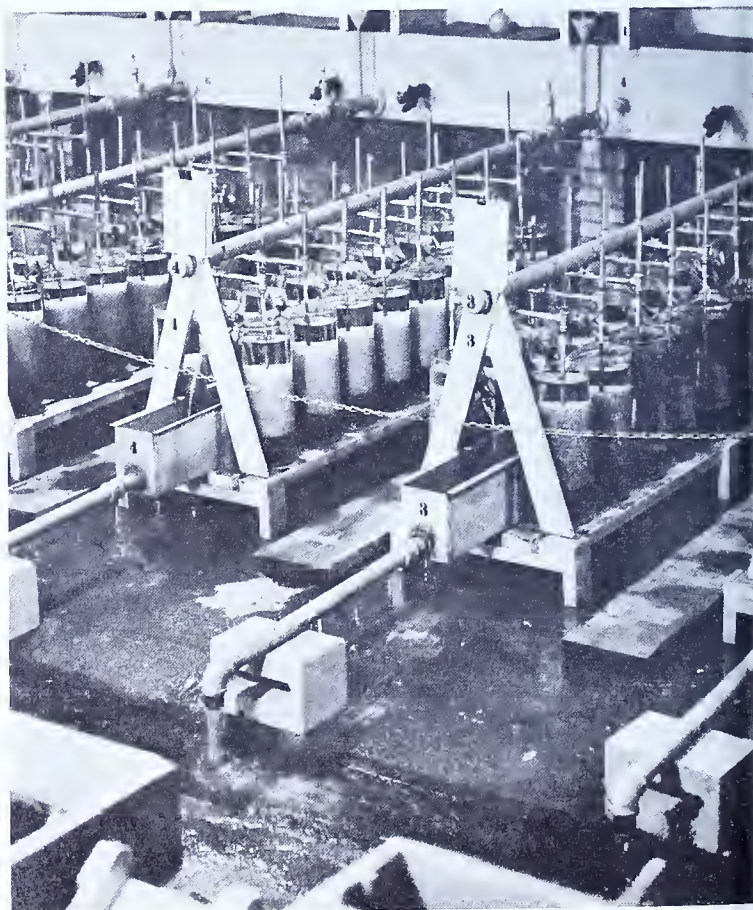
The Commission instituted a program to provide easily accessible and frequently stocked areas within a 30-mile air line radius of every fisherman in the State. State park lakes were included to provide good weekend fishing for anglers and their families. Under the new program, 64 streams and 40 lakes, ponds, and dams were stocked under the in-season "high pressure" program.

An Open House was held at the Benner Spring Fish Research Station and more than 800 people came to see new innovations in fish culture and the various fish exhibits. Also on display were model stream improvement devices, experimental fish hatching units, mechanical fish feeders, mechanical fish graders, artificially pigmented trout, large trout, kokanee salmon in their brilliant red spawning colors, and displays of all the various types of nets used in fish culture and fish management.

Lectures were given on the Benner Spring operation, fish management, fish diseases and parasites, and the latest fish genetic studies at the Pennsylvania State University.

In addition to research and management, 435,953 legal-size trout weighing 137,437 pounds were transferred to the Production Division. Besides trout, 400,000 northern pike fry, 500 muskellunge fingerlings and 3,000 tiger muskellunge fingerlings from Benner Spring, 3-15 inches in length, were stocked in selected waters of the Commonwealth.

—KEEN BUSS



LAW ENFORCEMENT

ON November 8, 1965, the H. R. Stackhouse Fishery Conservation and Watercraft Safety School was opened for the second class of fish warden and watercraft safety officers training. The class of 12 men was graduated January 28, 1966.

At the Commission's October, 1965, meeting, four fish wardens were promoted to the newly created positions of Assistant Regional Warden Supervisors. One was assigned to each of the four regional field offices, effective January 1, 1966. Their duties are primarily in the Public Relations fields, but they will also serve as utility officers of the Fish Commission.

The fish wardens worked an average of 9.1 hours per day during the fiscal year. 70,904 man hours were spent on stream and lake patrol. 5,649 hours were spent on stream pollution investigations. 21,706 hours were spent on conservation education. 10,193 hours on game law enforcement. 13,708 hours on special assignments and 42,377 hours were spent on miscellaneous activities, making a total of 164,537 hours worked. It is noted that less than one-half of hours worked were on law enforcement activities. A fish warden's duties today are much more diversified than they were twenty years ago. Better service to sportsmen and the public in general has been the end result of this great change over the last two decades.

—W. W. BRITTON

PUBLIC RELATIONS

THE public relations division's activities during 1966 would require more space than we have available. Briefly, the following are condensed and included:

Answered more than 168,000 requests for Commission publications.

Distributed more than 250,000 miscellaneous publications at fairs, sportsmen's meetings, etc.

Issued 103 fishing citations during 1965. Entries were received in 19 of 21 classes set up for the various species of fish.

The more than 750 Blue Book Agents were contacted at regular intervals by public relations personnel and county fish wardens.

Daily and weekly newspaper editors throughout the State were personally contacted by a representative of the public relations division.

More than 100 fishing schools were held in local high schools, YMCA's, and other public buildings throughout the winter months. The schools were instructed by teams of wardens with emphasis on slides and movies, display and demonstrations of fishing equipment and a course in fly tying. Ice fishing clinics were also held during the winter. During the summer practical fishing was taught at fishing and boating access areas, state park lakes and



other water areas owned or controlled by the Fish Commission.

Several million persons viewed the Commission exhibits which were displayed at all of the major sports shows, the Farm Show, and many county and state fairs and other local events. Special exhibits were constructed for the Commission's 100th Anniversary observance.

The Fish Commission was represented whenever possible at meetings of sportsmen's clubs, boating clubs, and many programs about fishing and Fish Commission activities were presented by our personnel at such meetings.

Fish Commission personnel appeared on numerous radio programs and TV shows, and presented interesting programs about fishing, Commission activities and the history of the Commission. Several programs were presented on local educational TV stations.

For the first time in many years, the Commission is establishing a 16mm film library. In addition to these films, our slide lectures have been shown to many groups of all ages throughout the state by our personnel.

"Let's Go Fishing in Pennsylvania Week" was proclaimed by the Governor during the week of June 18-25 and proved very popular. Teams of wardens conducted family fishing clinics at state parks throughout the state. The theme of the week was "fishing is family fun."

Public relations personnel cooperated with other divisions in holding "Open house" at the Benner Spring Fish Research Station in the Fall, and at the Linesville Fish Cultural Station in the Spring.

In addition to weekly fishing reports and special news releases which are mailed to more than 2400 newspapers, radio and TV stations, outdoor columnists and information agencies, the division's "Fishing Lines" and the new "Boating Lines" have proven extremely popular with members of the news media.

The format of the "Pennsylvania Angler" was improved.

Several new publications were prepared, including a "Directory of Fishing and Boating Information Centers," "Billfold Guide to Fishing Regulations," a new revised edition of "Fish Culture in Pennsylvania" and a revised "Boating Guide to Pennsylvania Waters."

The division cooperated with the Vacation and Travel Development Bureau of the Department of Commerce in the preparation of a pamphlet, "Pennsylvania has Millions of Acres to Hunt and Fish."

—GEORGE W. FORREST

REAL ESTATE

TODAY'S city dweller lives in a world of restrictions and congestions, plagued daily by pressures, speed, noise and dirt. He is compelled, in some instances, to travel for hours to reach that "Quiet Spot"; that clean stream, in which to fish or boat and satisfy his need for outdoor recreation. Visit any public fishing lake on a hot summer day and you will find that the urban fishermen solidly line the banks of these lakes.

Traditionally, Pennsylvania has been and still is known as one of the most concentrated regions of heavy industry in the world. It, further, is an undisputed fact that the Pennsylvania countryside is being consumed at an alarming rate by urbanization, industrialization, new expressways, and countless forms of commercialization. Fish, as well as other forms of aquatic life, are being threatened by unplanned developments. Only through the Fish Commission's continuous program of acquiring and developing public access to lakes and rivers and the creation of new lakes throughout the Commonwealth, can we assure the public of a fishing future.

The principal purpose of the Real Estate Division is to acquire and preserve these vital and much needed land and water sites for the fishing and boating public. The results have been gratifying. It is an investment in our future, paying dividends day after day, year after year, generation after generation, for all of Pennsylvania and for all of its citizens.

During the past fiscal year, the Real Estate Division worked on many properties being considered for acquisition. Properties considered for acquisition with the use of Project 70 monies include:

Painter Run Dam Site, Beaver County; addition to Reynoldsdale Hatchery, Bedford County; Piney Springs, Blair County; Ingham Springs, Bucks County; Cedar Springs and Bald Eagle Creek Access, Clinton County; French Creek Access, Crawford County; Big Springs, Cumberland County; Little Ontelaunee Creek proposed dam site, Lehigh County; Harris Pond Access, Lily Lake and Harveys Lake Access, Luzerne County; Newton Hamilton Access, Mifflin County; Martins Creek proposed dam site, Northampton County; Oswayo Springs,

Potter County; Canonsburg Lake Access, Washington County; Fishing Creek Access, York County. In addition, 1.16 acres of land was acquired for the Colyer Lake Dam Site, Centre County, and a 1.00 acre access was acquired to the Monongahela River in Washington County. Acquisition of the 223 acre dam site on Four Mile Run, Westmoreland County is more than 90% completed.

Progress was made at three P. L. 566 projects where Project 70 funds were used for the acquisition of future dam sites. At Marsh Creek, Tioga County, the total proposed acquisition of 229 acres is now 85% complete; acquisition at Briar Creek, Columbia County is 50% complete and preliminary steps for acquisition at Middle Creek, Snyder County are in progress.

During the fiscal year, four additional properties at East Bangor Dam, Northampton County were acquired using General State Authority funds. The acquisition of this existing lake is now about 90% complete.

—GLEN SPENCER

ENGINEERING

DURING the 1965-1966 fiscal year, the Engineering Division expanded to meet the demands of the Project 70 Acquisition Program and the increased maintenance work on public access areas and fishing lakes. The technical staff was increased to carry out the work of the Project 70 program and, at the same time, handle the Accelerated Hatchery Improvement Program.

Major development projects completed during this period included development of Speedwell Forge Lake, Lancaster County, in June, 1966. This lake will contain 106 surface acres at normal pool elevation, and has two large access areas available for use by the fishing and boating public. This project was developed for the Fish Commission by The General State Authority, on a contract basis, and provides a new fishing lake which is readily accessible to large population centers of southeastern Pennsylvania. Water is presently being impounded and it is hopeful that this facility will be ready for full public use late in 1967.

During this fiscal period, acquisition of Kyle Lake and Cloe Lake, in Jefferson County, was also completed. Development of public use facilities at these newly acquired lakes was nearly finished at Kyle Lake during this period, and construction was under way at Cloe Lake. Kyle Lake, which has a normal pool acreage of 155 acres, and Cloe Lake, with a normal pool area of 29 acres, provide the first public fishing lakes in Jefferson County and should provide many years of fine fishing for residents in this area of the Commonwealth.

Construction of Colyer Lake, in Centre County, was largely accomplished during this period. This project, which is being developed by Fish Commission personnel, was about 40% complete on July 1, 1965, and work was 95% complete on July 1, 1966. This development has now been completed and water is being impounded to



form a 77 acre lake. Two large public access areas have also been developed at this site. Many unique fish management devices are included in this project for use in providing ideal lake fishing conditions. Some of these management devices are innovations in engineering design of public fishing lakes.

In September, 1965, initial work was started for the renovation and modernization of approximately 50% of the Huntsdale Hatchery complex, in Cumberland County. This project, which is being developed by Fish Commission personnel, was about 35% complete on July 1, 1966, and the project is scheduled for final completion in September, 1967. This project will provide 7,200 lineal feet of modern concrete trout rearing raceways for use in the trout propagation program. The new units are the latest in modern design, and operation and maintenance of the completed facilities will be possible at a minimum of expense.

The maintenance personnel of the Engineering Division maintained 35 public fishing lakes presently owned, or controlled, by the Commission and more than 104 public access areas. The maintenance personnel also assisted on development projects at many locations. Some of the more important projects included remodeling of the new northwest regional headquarters at Tionesta; development of the Falmouth Access Area, Lancaster County; construction of new public use facilities at Dutch Fork, Washington County, and many other areas.

In addition to the major projects already described, the Engineering Division conducted its access development program, performed engineering investigations of proposed acquisition areas, coordinated the work of consulting engineering firms, prepared plans for The General State Authority program, and performed many other duties which are included in the following summary:

Engineering plans and specifications were completed for development of a new fishing lake on Four Mile Run, Westmoreland County; development of a large public boating and fishing access site on the Youghiogheny Reservoir, Fayette County; construction of a new storage building at the Benner Spring Research Station, Centre County; construction of a Regional Office and Maintenance Building at Harris Pond, Luzerne County; development of New Brighton Access Area, Beaver County; development of the Dutch Fork Access Area, Washington County, and preparation of plans for cooperative nursery developments in several locations. Preliminary engineering designs were also prepared for the development of the proposed Piney Creek Hatchery, Blair County, and the proposed Straight Run Lake, in Indiana County. Engineering and topographic surveys were conducted, as required, on all the projects on which design plans were completed.

Development of the following projects was completed:

SPEEDWELL FORCE LAKE, LANCASTER COUNTY
106 acre fishing lake with boat launching ramp,
access roads, parking area and sanitary facilities.



KYLE LAKE, JEFFERSON COUNTY

Installation of access road, parking area, sanitary facilities, concrete boat launching ramp, and renovation of the existing dam and 155 acre lake.

NEW BRIGHTON ACCESS AREA, BEAVER COUNTY

Installation of concrete boat launching ramp, floating boat dock, and paved access roads on the Beaver River.

FALMOUTH ACCESS AREA, LANCASTER COUNTY

Installation of paved boat launching ramp, large paved parking area, sanitary facilities and major overall property improvement to provide access to the Susquehanna River at one of the best fishing locations within the Commonwealth.

THOMPSONTOWN ACCESS AREA, JUNIATA COUNTY

Installation of stone surfaced access road, parking area and boat launching ramp on the Juniata River.

NORTH FORK RED BANK CREEK, JEFFERSON COUNTY

Installation of two small public access sites consisting of access roads and parking areas to permit public parking and walk-in access on this fine trout stream.

DUTCH FORK LAKE, WASHINGTON COUNTY

Installation of a new stone surfaced access road, parking area and boat launching ramp and public sanitary facilities on the west side of the existing lake.

Major improvements were made at the following access areas:

WRIGHTSVILLE ACCESS AREA, YORK COUNTY

Major property improvements including new landscaping.

GREENWOOD ACCESS AREA, PERRY COUNTY

Regraded the existing boat launching ramp.

WALKER ACCESS AREA, JUNIATA COUNTY

General property improvements.

RAYSTOWN DAM ACCESS AREA, HUNTINGDON COUNTY

Installation of a new floating boat landing dock.

DUTCH FORK, WASHINGTON COUNTY

Regrading and stone surfacing of existing access road on the east side of the lake.

SOMERSET LAKE, SOMERSET COUNTY

Regrading and stone surfacing of existing access road and development of an additional small public parking area.

In addition to the projects having completed plans and specifications, topographic and engineering surveys were conducted on Straight Run, Indiana County; Piney Creek, Blair County; Canonsburg Lake, Washington County and McKeesport Access Area (Youghiogheny River), Allegheny County.

Property surveys were conducted on Briar Creek, Columbia County; Mancini Access Area, Washington County; Canonsburg Lake, Washington County; New Brighton, Beaver County; Reynoldsdale Hatchery, Bedford County; Big Spring, Cumberland County; East Branch Martins Creek, Northampton County; Marsh Creek, Tioga County, and Cedar Springs, Clinton County.

Preliminary investigations were conducted on Straight Run, Indiana County; Marsh Creek, Bucks County; Muddy Creek, Lancaster County; Piney Creek, Blair County; Ingham Springs, Bucks County; Roaring Run, Somerset County; Briar Creek, Columbia County; Middle Creek, Snyder County; Mauch Chunk Creek, Carbon County; Little Ontelaunee Creek, Lehigh County; Newton Hamilton Access Area, Mifflin County, and many other sites throughout the Commonwealth.

Other major projects included review of plans for all highway construction projects within the Commonwealth; emergency drawdown and breaching of Hunters Lake, Sullivan County; remodeling the central engineering office at Pleasant Gap; construction of prefabricated toilets for installation on Fish Commission projects and serving as consultants and assisting other Divisions in the maintenance and operation of Fish Commission facilities. The Engineering Division also was represented at the Northeast Fish and Wildlife Conference held in Boston, Massachusetts; the Boating Access Conference in San Diego, California, a Purchasing Seminar in Scranton, Pennsylvania, and the Dingell-Johnson Coordinators' meeting in Philadelphia.

—EDWARD MILLER



WATERCRAFT SAFETY



DURING the calendar year ending December 31, 1965, the Fish Commission's Office of Watercraft Safety received the National Gold Cup Award for achievement in Boating Safety. Sensible regulations, well trained water patrolmen, and the Commission's educational course, "Boating Pleasure," were considered. The final results were proven in the reduction of boating fatalities from the normal of 36 to 12 for 1965.

This award and safety record was a large scale operation in which many people share the credit. The Advisory Board drew up sensible and sound regulations and the Commissioners adopted them 100 per cent. The Fish Wardens and Watercraft Safety Officers received intensive training in the motor boat requirements, both State and Federal, from the U. S. Coast Guard and its Auxiliary Division V under Captain, now Rear Commodore Ward Donohue. These patrolmen did an excellent job of educational enforcement; and, although there was a gradual tightening of enforcement, written warnings exceeded actual arrests, 687 to 438.

To assist in public education, 90,000 booklets on "Pennsylvania Pleasure Boating Requirements" were printed for distribution. This booklet contains the complete law and regulations. Ninety-one thousand folders entitled "Numbering, Equipment, and Operating Summary" were printed for inclusion with all certificates of registration. Fifty thousand of each of the following folders were prepared for shows, clubs, and individual usage:

"Boat Trailing"

"Marine Parades, Regattas, Races, Tournaments & Exhibitions"

"Water Skiing"

"Uniform Waterway Marker System"

Display cases were built for use at boat shows in each of the four (4) Regions. The equipment displayed in these cases is supplied by various manufacturers and dealers throughout the Commonwealth and nation.

Early in this fiscal year the Educational Committee, under the guidance of its Chairman, Gustave F. Straub, held a critique of the pilot courses conducted during the previous fiscal year and prepared the final course which in its first year was offered in 8 areas around the State. There were 202 students successfully completing these courses. Classroom instructors were obtained from the U. S. Coast

Guard Auxiliary and U. S. Power Squadrons to assist the then three Watercraft Safety Officers.

The third Watercraft Safety Officer was added in July 1965 to the two hired in the previous fiscal year. In June 1966, a fourth Officer was hired so that there is now one in each of the Fish Commission's four regions. Plans are underway to hold an examination for a fifth Watercraft Safety Officer who is sorely needed with the completion of the Shenango River and Allegheny River Reservoirs and the overall increase in boating.

Four carry-all trucks were purchased for these Watercraft Safety Officers because they must cover an entire region of 14 to 17 counties. In addition, five small patrol boats, motors, and trailers were obtained to cover water areas where boating pressure had increased. Sirens, flashing blue lights, public address equipment and resuscitators were procured for use on major patrol craft in areas of highest boating intensity. The usual life saving devices and fire extinguishers were supplied to all vessels in the fleet.

During the 1965 fiscal year, motor boat registration increased to over 106,000. It is estimated that there are at least 57,000 other craft, such as sailboats, rowboats, canoes, etc., and this would mean that between 800,000 and 900,000 people took to our waterways.

Other activities during 1965-66 included the authorization and control of 47 Marine Parades, Regattas, Races, Tournaments and Exhibitions. Because kite flying is a relatively new sport and creates a safety hazard on our congested waters, only three permits were granted after careful consideration of the waters and operators. In a continuing effort to mark our waterway hazards and zone areas for safety, all 270 buoys previously purchased have been established on such waters as the Susquehanna River, Youghiogeny Reservoir, Tionesta Reservoir, Lake Wallenpaupack, Schuylkill River, etc. To these, almost 1,000 private aids were authorized to mark swimming areas and channels. Fifty larger buoys with higher intensity lights were purchased for marking more exposed waters such as Lake Wallenpaupack and Pymatuning Reservoir.

For the third consecutive year under our new Motor Boat Law, Governor Scranton proclaimed Safe Boating Week. Five hundred posters were printed and distributed to dealers, marinas, clubs and other boating organizations.

—EDWARD R. THARP



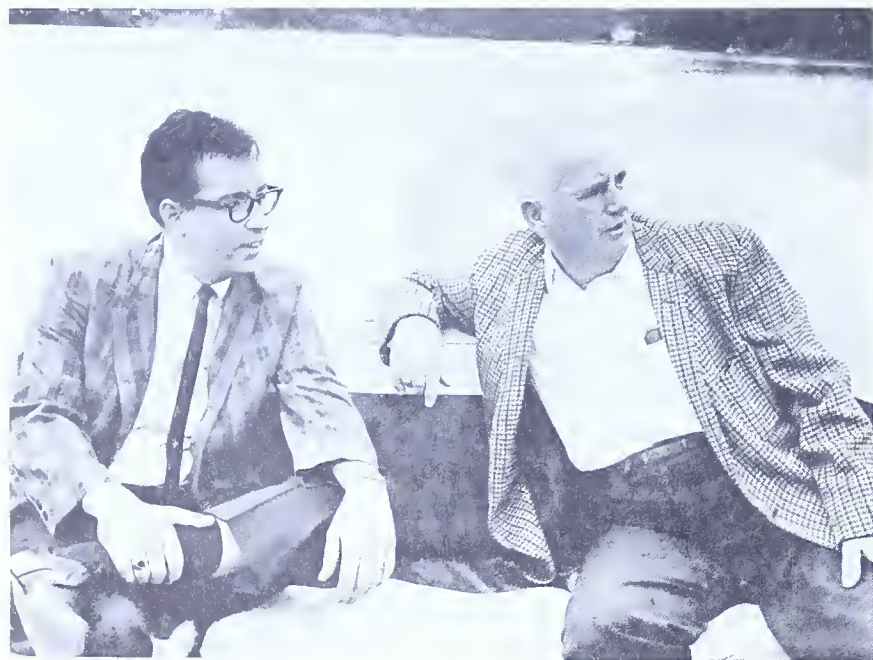
A GROUP of soil conservationists, members of the Pennsylvania Fish Commission, a county planner and a Pittsburgh Press reporter took a look this fall at the lower Allegheny.

The tour, conducted by the southwest regional office of the Pennsylvania Fish Commission, started at the Hideaway Harbor Marina at Squaw Run and Old Freeport Road a few miles above the point and extended north some 20 miles to Freeport near the Southeast corner of Butler County.

Traveling in two patrol boats owned by the Commission the group watched for areas with possible future recreational development potential for such things as boating access areas, public picnic areas and parks.

Also under observation were problems created by the vast industrialization in the area—areas where large amounts of wastes are being dumped into the river leaving shorelines and boat bottoms covered with heavy, dark scum.

The day preceding the tour made by the conservationists, members of the Pennsylvania Game Commission were taken on the trip.



TOP RIGHT—River cruise was made in two 22 foot patrol boats which are normally used for patrol work on the Allegheny. Here one of the boats passes a wooded section along the river upstream from Pittsburgh near Freeport.

TOP LEFT—Going through the locks, Bill Sterling, Region Two Watercraft Safety Officer holds the lines in the stern as Fish Warden Paul Sowers holds the bow. Three members of the soil conservation group watch.

LEFT—Dave Owsley, Allegheny County Planning Committee, and Eugene Coyne, Allegheny County Soil and Water Conservation District Director watch the shoreline from the stern of one of the cruise boats.

CONSERVATION GROUP GETS BOATS EYE VIEW— THE LOWER ALLEGHENY

By TOM EGGLES—*Staff Writer—Photographer*



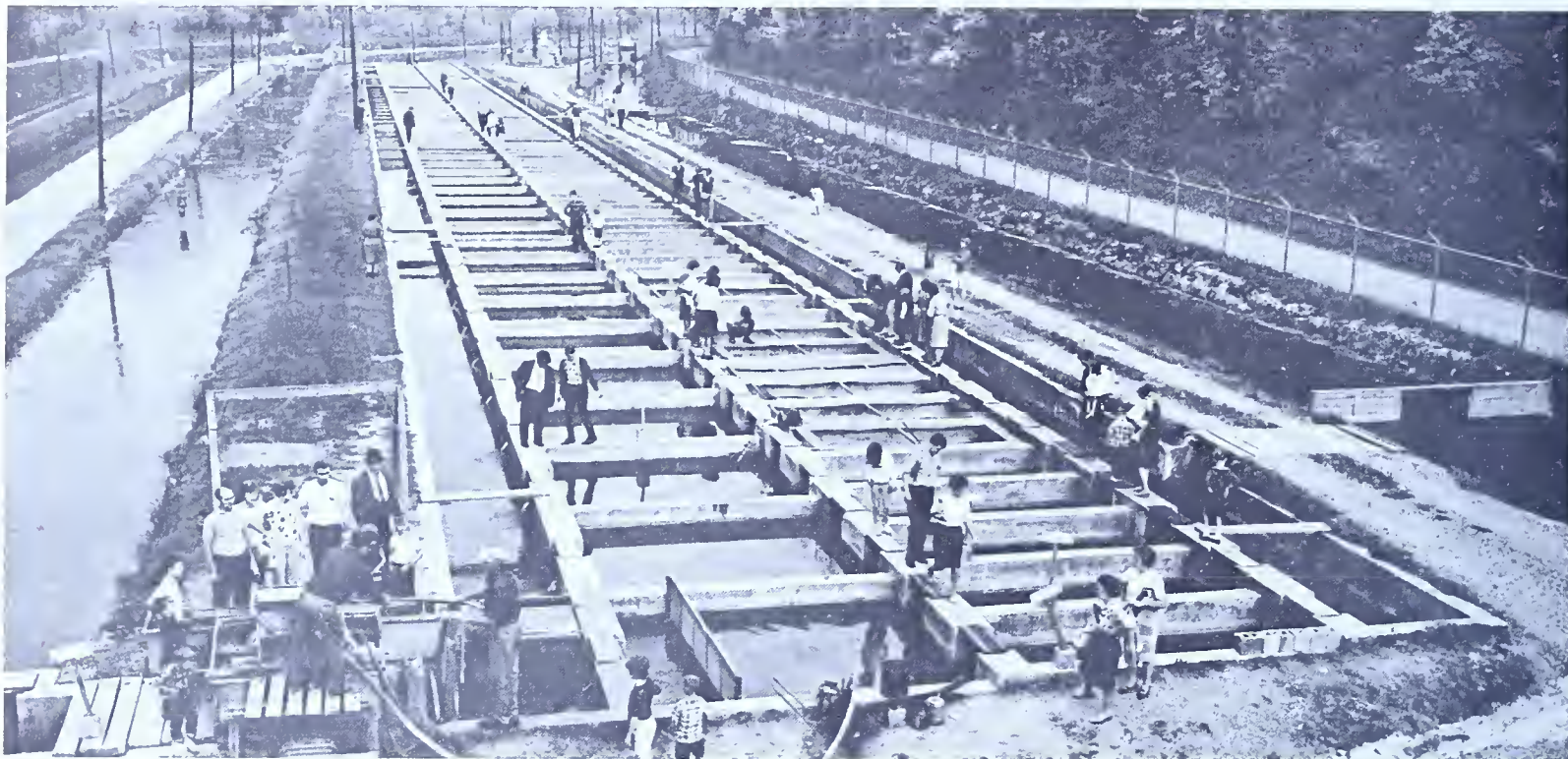
ABOVE—Smoke pours from the stacks of an industrial plant as the boats leave one of the locks on the trip upstream.

RIGHT—Bill Lucas, Soil Conservation Service, and Dave Owsley, Allegheny County Planning Board, check navigation charts of the river during the trip.

BELOW—Members of the group were (left to right), kneeling: Bill Lucas, Soil Conservation Service; Dave Owsley, Allegheny County Planning Board, and Art Glickman, Pittsburgh Press reporter. Standing are: Bill Sterling, Water Safety Officer, Pennsylvania Fish Commission; Ray Newberg, Soil Conservation Service; Eugene Cayne, District Director, Allegheny County Soil and Water Conservation; George Geisler, Allegheny County Soil and Water Conservation District; Paul Altinger, District Director, Allegheny County Soil and Water Conservation; and Lee Shartess, Asst. Warden Supervisor, Pennsylvania Fish Commission.



BIG DOINGS AT BENNER SPRING-PL



ALL FILLED with different species of fish, these ponds provided visitors with hours of entertainment. In the left foreground personnel demonstrate the mechanical fish grader.



ARTHUR BRADFORD, chief pathologist of the research staff at Benner Springs, explains fish disease problems to Mr. and Mrs. Leroy Eggleton of Hawley.



VISITORS WATCH as eggs are w Spring Creek Hatchery. Eggs taken into some of the trout stocked in

LOOK AT THAT ONE! A trio of young visitors to the open house at the Pleasant Gap Hatchery look in wonderment at a variety of large fish on display at the Pleasant Gap Hatchery, one of the three stations of the complex open during the open house.

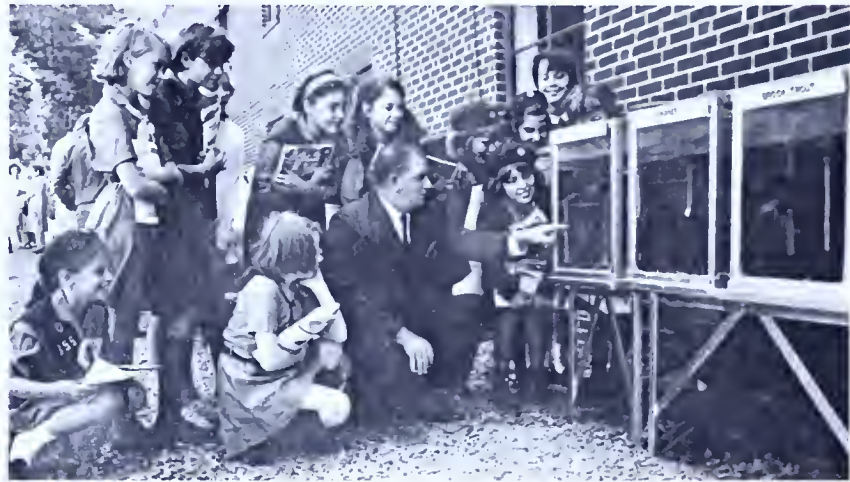
PLEASANT GAP-BELLEFONTE OPEN HOUSE

THOUSANDS VIEW PENNSYLVANIA FISH COMMISSION'S BIG CENTRE COUNTY HATCHERY COMPLEX ON OCTOBER 8 and 9, 1966.

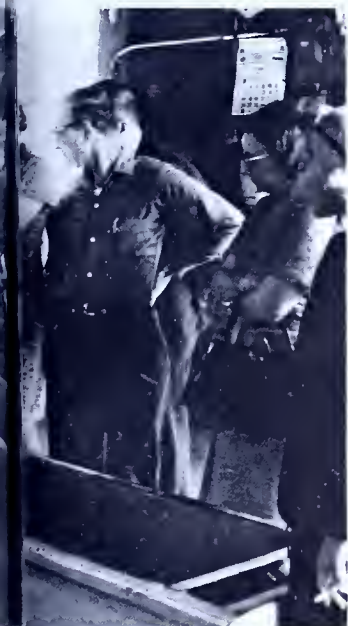
By TOM EGGLE—*Staff Writer—Photographer*



VISITORS REGISTERED when they got off the bus that transported them from the parking lot to the main office at Benner Springs. Registration records were kept at each of the three stations open to the public during the open house.



FISH WARDEN of Mifflin and Juniata Counties Richard Owens shows a troop of girl scouts from his home area some of the fish on display.



taken from a trout at the hatchery. The eggs will eventually grow into trout in the future.



FISH FOOD was explained to visitors at the Pleasant Gap Hatchery during the two day open house. On display here are various pellets used in the daily feeding of fish.



DOES IT HURT? Students visiting the Benner Springs Research Station during the two day open house watch as eggs are taken from a trout on the air spawner. A short needle, through which some two pounds of air is forced in order to force the eggs out, is inserted into the fish. Before this is done, the fish are "knocked out" temporarily with methyl pentynol.

AN ACCOUNTING TO PENNSYLVANIA'S ANGLERS AND SPORTSMEN...

FISCAL YEAR JULY 1, 1965
TO JUNE 30, 1966



By JOHN M. SMITH, Comptroller

FINANCIAL operations of the Pennsylvania Fish Commission during the fiscal year beginning July 1, 1965, and extending through June 30, 1966 are presented in detail in the following statements, charts, and schedules. Expenditures made by other departments of the Commonwealth authorized to spend monies from the Fish Fund are included in order to show a complete record as to the status of the Fish Fund.

The Fish Commission is a self-supporting organization which receives no support from the tax revenues of the State. The operations of the Commission are financed entirely by income derived from the sale of fishing licenses, collection of fines due to Fish Law violations, monies received from the Federal Government under provisions of the Dingell-Johnson Act whereby the Federal Excise Tax on fishing equipment is distributed to the various states,

participation in other Federal funds and from other varied activities which are listed in Schedule II of this report.

To assist in the interpretations of the financial schedules contained in this report, the following facts are presented:

Schedule No. I shows the cash on hand as of June 30, 1966. This schedule also shows the accrued liabilities existing at the close of the fiscal period and provision for necessary working capital resulting in the net balance available for expenditures during fiscal year 1966-67.

Vouchers payable represents invoices in the amount of \$3,407.38 which has been submitted to the Auditor General and State Treasurer for payment prior to the close of business on June 30, 1966 but remain unpaid as of that date.

The amount of \$328,187.94 is set aside for the

SCHEDULE NO. I
CONSOLIDATED STATEMENT OF FINANCIAL POSITION
FISH FUND
AS OF JUNE 30, 1966

CASH		\$ 707,825.32
INVESTMENTS—U. S. GOVERNMENT SHORT TERM SECURITIES		1,779,524.13
TOTAL CASH AND INVESTMENTS		\$2,487,349.45
LESS: LIABILITIES AND WORKING CAPITAL:		
VOUCHERS PAYABLE	\$ 3,407.38	
ENCUMBRANCES—PENNSYLVANIA FISH COMMISSION	328,187.94	
ENCUMBRANCES—DEPARTMENT OF REVENUE	964.24	
RESERVE FOR WORKING CAPITAL	1,000,000.00	1,332,559.56
NET BALANCE AVAILABLE FOR EXPENDITURES DURING FISCAL YEAR 1966-1967		\$1,154,789.89

payment of Fish Commission commitments to purchase feed, fuel, materials, supplies, rentals, utility expenses, and accrued payrolls which were unpaid at the end of the fiscal period.

The Department of Revenue is authorized by law to issue all fishing licenses and Fish Fund monies are appropriated to cover the required expenses. The sum of \$964.24 is reserved to cover the outstanding bills for this activity. Since the greater portion of the Commission's revenues are deposited to the Fish Fund during the last three months of the fiscal year, it becomes necessary to provide a sufficiently large cash reserve at the start of the fiscal period in order that adequate funds will be available to permit the Commission to function and to pay its obligations during the first nine months when expenditures exceed revenues. In order to meet these requirements, a cash reserve of \$1,000,000.00 is required as of July 1, 1966.

The remaining amount of \$1,154,789.89 is available for the operations of the Fish Commission during the following fiscal year.

Schedule No. II shows a cash balance of \$2,174,981.78 in the State Treasury at the beginning of the fiscal year July 1, 1965, less unpaid vouchers in fiscal offices as of June 30, 1965 amounting to \$7,896.29 or net cash available for expenditures as of July 1, 1965 in the amount of \$2,167,085.49. Revenues from all sources during the year amounted to \$2,973,837.83 which, when added to the net cash balance provides a total of \$5,140,923.32 available to the Commission to finance the operations during the 1965-66 fiscal year.

From these funds, the Commission expended \$2,439,223.00 and other State Departments disbursed \$217,758.25 for a grand total \$2,656,981.25 including \$3,407.38 vouchers "in transit in fiscal offices at June 30, 1966." The cash balance and investments in State Treasury to credit of the "Fish Fund" at June 30, 1966 amounts to \$2,487,349.45.

Revenues received during the 1965-66 fiscal year showed an increase of \$138,094.18 over the prior fiscal year. It is encouraging that increases occurred in the sale of resident, non-resident and tourist fishing licenses over the prior fiscal year.

Schedule III shows the expenditures made by the Fish Commission in compliance with Legislative Act No. 673, Session of 1959, and Act No. 458, Session of 1963. Expenditures are classified by the nature of the activity to which they apply. This schedule indicates that the Commission exceeded the mandated requirements for this fiscal period by \$475,874.52.

Schedule No. IV and V shows the financial condition of the "Boating Fund" as of June 30, 1966.

The Commonwealth has many controls and safeguards to insure accurate records and accounts and the judicious expenditures from the "Fish Fund" and "Boating Fund." Under the provisions of Article IV, Section 402 of the Fiscal Code, the Auditor General is required to audit the records and accounts of all Commonwealth Departments, Boards and Commissions at least once a year. The formal audit of the Fish Commission (which includes Watercraft Safety Division) for the year ended June 30, 1966 has not been completed, but as the records and accounts are in good order, no problems are anticipated.

Other controls imposed on all Departments, Boards and Commission are:

- 1—Mandatory requirement that all expenditures shall be audited by the Auditor General and the State Treasurer before payment.
- 2—The daily mandatory reporting of all financial transactions to the Bureau of Accounts in the Office of Administration.
- 3—The control exercised by the Governor's Budget Secretary over all budget matters.
- 4—The periodic verification of Commission accounts with those maintained by the Department of the Auditor General, State Treasury and the Bureau of Accounts of the Office of Administration.

SCHEDULE NO. II
PENNSYLVANIA FISH COMMISSION
STATEMENT OF REVENUE, EXPENDITURES AND CASH BALANCES
FISH FUND
FISCAL YEAR JULY 1, 1965 TO JUNE 30, 1966

REVENUE

Cash in State Treasury to Credit of "Fish Fund" July 1, 1965	\$2,174,981.7
Less: Unpaid Vouchers in Fiscal Offices as of June 30, 1965	7,896.2
Net Cash Available for Expenditures as of July 1, 1965	\$2,167,085.4
Receipts July 1, 1965 to June 30, 1966	
Resident Fishing Licenses	\$2,455,371.10
Non-Resident Fishing Licenses	140,449.75
Live Bait Dealers' Licenses & Miscellaneous Permits & Fees	2,923.00
Tourist Fishing Licenses	42,269.50
Lake Erie Licenses	1,177.00
Commercial Hatchery Licenses	6,700.00
Fee Fishing Lake Licenses	8,135.00
Fish Law Fines	30,361.00
Interest on Securities	56,097.92
Interest on Deposits	6,187.50
Sale of Unserviceable Property (Department of Property and Supplies)	490.05
Contributions for Restocking Streams	23,435.33
Contributions from Federal Government (Dingell-Johnson Act)	157,161.04
Sale of Publications	30,440.06
Rental of Fish Commission Property	5,070.00
Miscellaneous Revenue—Fish Commission	7,569.58
Miscellaneous Revenue—Revenue Department	
Refunds of Expenditures—Not Credited to Allocations	
Sale of Vehicles (Department of Property and Supplies)	
Total Receipts from All Sources	\$2,973,837.8
Total Funds Available During Year	\$5,140,923.3

CLASSIFICATION OF EXPENDITURES BY ORGANIZATIONAL UNITS

Classification of Expenditures	Executive and General Administration	Propagation	Fishery Management and Research	Law Enforcement	Conservation Education	Land and Waters Management	Engineering and Development	Totals
Salaries	\$108,732.41	\$625,764.00	\$126,677.40	\$345,939.59	\$ 36,149.00	\$ 74,962.99	\$ 91,651.47	\$1,409,876.8
Wages	2,727.45	22,044.63	4,859.39	86.40	351.55	13,104.38	3,441.79	46,615.5
Professional & Special Services	24,140.42	313.01	321.96	1,489.87	12,694.58	114.59	140.93	39,215.3
Printing	12,543.45	146.57	141.52	967.89	42,275.26	8.67	78.19	56,161.5
Postage & Freight	2,739.84	859.05	420.39	2,120.87	15,512.21	258.00	123.50	22,033.8
Communications	4,513.75	4,881.56	2,412.11	11,633.17	1,027.06	1,121.27	1,442.18	27,031.1
Travel	10,685.91	8,618.11	4,846.09	92,491.28	5,462.07	5,802.79	2,583.00	130,489.2
Utilities & Fuel	—0—	30,620.63	2,260.25	741.39	36.55	943.31	386.31	34,988.4
Membership Dues & Subscriptions	523.05	9.00	87.95	—0—	12.00	20.00	72.00	724.0
Insurance, Surety & Fidelity Bonds	831.61	8,005.68	2,167.20	3,489.68	338.17	1,359.73	902.38	17,094.4
Motorized Equipment Supplies & Repairs	974.81	27,885.18	2,191.67	325.04	226.62	3,418.11	3,039.12	38,060.5
Contracted Repairs & Maintenance Services	1,088.41	3,458.37	420.78	2,846.39	498.90	7,457.29	202.50	15,972.6
Rent of Real Estate	—0—	2,610.00	300.00	170.00	97.20	218.00	—0—	3,395.2
Rent of Equipment	1,125.14	119.24	116.81	—0—	—0—	1,158.00	—0—	2,519.1
Miscellaneous Materials & Supplies	3,548.75	19,983.33	8,471.54	9,344.17	3,259.50	3,585.23	3,071.32	51,263.8
Fish Food & Other Agricultural Supplies	—0—	156,152.22	1,274.17	—0—	—0—	100.00	—0—	157,526.3
Motor Vehicles	—0—	20,281.52	6,658.46	7,870.60	1,967.65	5,962.21	13,320.66	56,061.1
Equipment, Machinery & Furniture	1,196.09	9,883.18	5,031.65	205.29	2,506.91	2,385.64	13,280.00	34,488.7
Buildings & Structures	—0—	—0—	—0—	—0—	—0—	—0—	247,341.67	247,341.6
Non-Structural Improvements	—0—	—0—	—0—	—0—	—0—	—0—	40,409.45	40,409.4
Refunds of Receipts	453.75	—0—	—0—	—0—	—0—	—0—	—0—	453.7
Grants & Subsidies	—0—	—0—	\$7,500.00	—0—	—0—	—0—	—0—	7,500.0
Total Expenditures By Fish Commission	\$175,824.84	\$941,635.28	\$176,159.34	\$479,721.63	\$122,415.23	\$121,980.21	\$421,486.47	\$2,439,223.0

Plus:	° Expenditures by Other State Departments from Fish Fund	
	° Department of Revenue	\$53,683.82
	° Department of State	82,301.00
	° Department of Labor & Industry	47,771.00
	° General State Authority Rentals	34,002.43
		217,758.25

TOTAL EXPENDITURES \$2,656,981.25

Cash Balance June 30, 1966, Available for Expenditures in 1966-1967 Fiscal Year 2,483,942.07

Plus: Unpaid Vouchers in Fiscal Offices as of June 30, 1966 3,407.38

Cash Balance in State Treasury to Credit of "Fish Fund" June 30, 1966 \$2,487,349.45

° These items are paid out of the "Fish Fund" upon requisition drawn by other departments and are included for a complete presentation of the "Fish Fund" finances.

SCHEDULE NO. III
EXPENDITURES IN COMPLIANCE WITH ACT NO. 673,
SESSION OF 1959 AND ACT NO. 458, SESSION OF 1963

Act No. 458, Session of 1963 amended Act No. 673, Session of 1959. This Act became effective March 1, 1964 and provides that the sum of fifty (50) cents from each resident and non-resident fishing license fee shall be used exclusively for (I) the acquisition, leasing, development, management and maintenance of public fishing waters and of areas for providing access to fishing waters and the carrying out of Lake and Stream reclamation and improvement; (II) the rebuilding of torn out Dams, and (III) the study of problems related to better fishing.

FOR THE FISCAL YEAR JULY 1, 1965 TO JUNE 30, 1966

	<i>Fishery Management and Research</i>	<i>Acquisition of Lands and Fishing Waters</i>	<i>Management and Maintenance of Lands and Fishing Waters</i>	<i>Development of Lands and Fishing Waters</i>	<i>Totals</i>
Salaries	\$126,677.40	\$7,435.95	\$ 67,527.04	\$ 91,651.47	\$293,291.86
Wages	4,859.39	—0—	13,104.38	3,441.79	21,405.56
SALARIES AND WAGES—TOTAL	131,536.79	7,435.95	80,631.42	95,093.26	314,697.42
Professional and Special Services	321.96	81.00	33.59	140.93	577.48
Printing	141.52	—0—	8.67	78.19	228.38
Postage and Freight	420.39	25.00	233.00	123.50	801.89
Communications, Utilities and Fuel	4,672.36	79.22	1,985.36	1,828.49	8,565.43
Membership Dues and Subscriptions	87.95	—0—	20.00	72.00	179.95
Travel	4,846.09	767.88	5,034.91	2,583.00	13,231.88
Insurance	2,167.20	332.03	1,027.70	902.38	4,429.31
Motorized Equipment Supplies and Repairs	2,191.67	210.79	3,207.32	3,039.12	8,648.90
Contracted Repairs and Maintenance Service	420.78	—0—	7,457.29	202.50	8,080.57
Rent of Real Estate	300.00	—0—	218.00	—0—	518.00
Rent of Equipment	116.81	—0—	1,158.00	—0—	1,274.81
Miscellaneous Materials and Supplies	8,471.54	7.00	3,578.23	3,071.32	15,128.09
Fish Food and Other Agricultural Supplies	1,274.17	—0—	100.00	—0—	1,374.17
OTHER OPERATING EXPENSES—TOTAL	25,432.44	1,502.92	24,062.07	12,041.43	63,038.86
Motor Vehicles	6,658.46	—0—	5,962.21	13,320.66	25,941.33
Equipment, Machinery and Furniture	5,031.65	—0—	2,385.64	13,280.00	20,697.29
EQUIPMENT—TOTAL	11,690.11	—0—	8,347.85	26,600.66	46,638.62
Buildings and Structures	—0—	—0—	—0—	247,341.67	247,341.67
Non-Structural Improvements	—0—	—0—	—0—	40,409.45	40,409.45
OUTLAY—LANDS, STRUCTURES AND IMPROVEMENTS—TOTAL	—0—	—0—	—0—	287,751.12	287,751.12
GRANTS	7,500.00	—0—	—0—	—0—	7,500.00
TOTAL EXPENDITURES	\$176,159.34	\$8,938.87	\$113,041.34	\$421,486.47	\$719,626.02

STATEMENT OF RECEIPTS AND EXPENDITURES—ACT NO. 458—SESSION OF 1963

<i>Fiscal Year</i>	<i>Resident Licenses Sold</i>	<i>Non- Resident Licenses Sold</i>	<i>Minimum To Be Expended</i>	<i>Expenditures</i>	<i>Over (°) or Under (—) Minimum</i>
1965—66	472,719	14,784	\$243,751.50	\$719,626.02	\$475,874.52°



Cypher



SCHEDULE NO. IV
PENNSYLVANIA FISH COMMISSION
STATEMENT OF REVENUE, EXPENDITURES AND CASH BALANCES
BOATING FUND
FISCAL YEAR JULY 1, 1965 TO JUNE 30, 1966
REVENUE

Cash in State Treasury to Credit of "Boating Fund" July 1, 1965		\$293,738.68
Receipts July 1, 1965 to June 30, 1966		
Motor Boat Registration Fees—Fish Commission	\$317,397.00	
Motor Boat Registration Fees—Delaware River Navigation Commission	28,668.00	
Motor Boat Fines—Fish Commission	2,285.00	
Miscellaneous Revenue—Fish Commission	66.12	
Miscellaneous Revenue—Revenue	18.44	
Motor Boat Fines—Delaware River Navigation Commission	220.00	
Total Receipts from all Sources		\$348,654.56
Total Funds Available During Year		\$642,393.24

CLASSIFICATION OF EXPENDITURES BY ORGANIZATIONAL UNITS

<u>Classification of Expenditures</u>	<u>Administration</u>	<u>Law Enforcement</u>	<u>Totals</u>
Salaries	\$29,115.65	\$29,672.98	\$ 58,788.63
Wages	—	4,395.35	4,395.35
Professional & Special Services	727.89	—	727.89
Printing	15,314.35	193.26	15,507.61
Postage & Freight	320.60	488.48	809.08
Communications	769.96	182.98	952.94
Travel	1,813.12	10,684.51	12,497.63
Memberships	30.00	—	30.00
Insurance	144.25	641.28	785.53
Motorized Equipment Supplies & Repairs	1,534.40	2,071.99	3,606.39
Contracted Repairs & Maintenance Services	86.00	5,019.91	5,105.91
Rent of Real Estate	—	1,511.96	1,511.96
Rent of Equipment	—	2,515.00	2,515.00
Miscellaneous Materials & Supplies	1,208.89	7,200.01	8,408.90
Motor Vehicles, Boats & Equipment	—	23,529.33	23,529.33
Non-Structural Improvements	—	7,988.07	7,988.07
Total Expenditures by Fish Commission from "Boating Fund"	<u>\$51,065.11</u>	<u>\$96,095.11</u>	<u>\$147,160.22</u>
Plus: *Expenditures by Other Departments from "Boating Fund"			
*Department of Revenue—Provide forms for registration of motor boats		\$47,486.83	
*Department of State—Contributions to Employees' Retirement System		1,655.00	
*Department of Labor & Industry—Contributions to Social Security		480.00	
*General State Authority Rentals		1,984.86	
*Delaware River Navigation Commission		35,346.19	86,952.88
Total Expenditures			\$234,113.10
Cash Balance in State Treasury to credit of the "Boating Fund" at June 30, 1966			<u>\$408,280.14</u>

*These items are paid out of "Boating Fund" upon requisition drawn by other departments and are included for a complete presentation of the "Boating Fund" finances.

DELAWARE RIVER NAVIGATION COMMISSION
EXPENDITURES—LAW ENFORCEMENT
BOATING FUND
FISCAL YEAR JULY 1, 1965 TO JUNE 30, 1966

<u>Classification of Expenditures</u>	
Wages	\$14,812.80
Professional and Special Services	6,048.53
Insurance and Memberships	770.62
Communications	203.32
Motorized Equipment Supplies and Repairs	660.85
Rent of Real Estate	25.00
Miscellaneous Materials and Supplies	216.67
Boats and Equipment	12,608.40
Total Expenditures	<u>\$35,346.19</u>

SCHEDULE NO. V
CONSOLIDATED STATEMENT OF FINANCIAL POSITION
BOATING FUND
AS OF JUNE 30, 1966

CASH		\$408,280.14
LESS: LIABILITIES AND WORKING CAPITAL:		
ENCUMBRANCES—PENNSYLVANIA FISH COMMISSION	\$25,323.54	
ENCUMBRANCES—DEPARTMENT OF REVENUE	23,957.37	
RESERVE FOR WORKING CAPITAL	50,000.00	
ENCUMBRANCES—DEPARTMENT OF LABOR AND INDUSTRY	294.00	
RESERVE—DELAWARE RIVER NAVIGATION COMMISSION	13,753.56	113,328.47
NET BALANCE AVAILABLE FOR EXPENDITURES DURING FISCAL YEAR 1966-1967		<u>\$294,951.67</u>

PENNSYLVANIA FISH COMMISSION FISH FUND

RECEIPTS FOR THE FISCAL YEAR — JULY 1, 1965 TO JUNE 30, 1966

A - 82.56 %

B - 4.72 %

C - 1.42 %

D - 0.64 %

E - 1.02 %

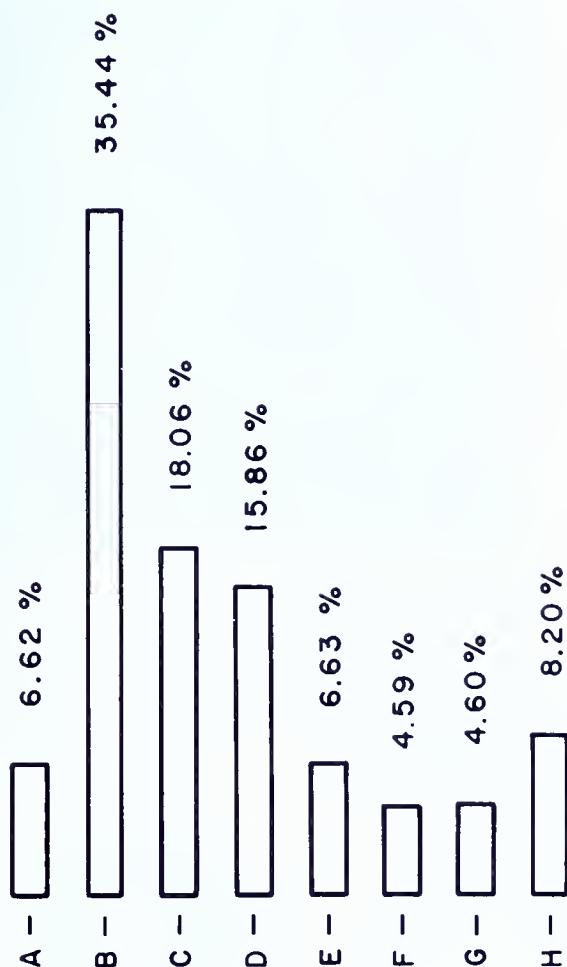
F - 5.29 %

G - 4.35 %

A - RESIDENT FISHING LICENSES	\$ 2,455,371
B - NON-RESIDENT LICENSES	140,450
C - TOURIST FISHING LICENSES	42,270
D - MISCELLANEOUS LICENSES, (FEE FISHING LAKES, COMMERCIAL HATCHERIES, LAKE ERIE, ... SPECIAL EEL AND MISCELLANEOUS LICENSES.)	18,935
E - FINES - FISH LAW	30,361
F - CONTRIBUTIONS FROM FEDERAL GOVERNMENT	157,161
G - MISCELLANEOUS REVENUE, (CONTRIBUTIONS FOR RESTOCKING STREAMS, SALES OF PUBLICATIONS, INTEREST ON SECURITIES AND DEPOSITS, RENTAL OF COMMISSION PROPERTY, SALE OF UNSERVICEABLE PROPERTY, AND MISCELLANEOUS REVENUE.)	<u>129,290</u>

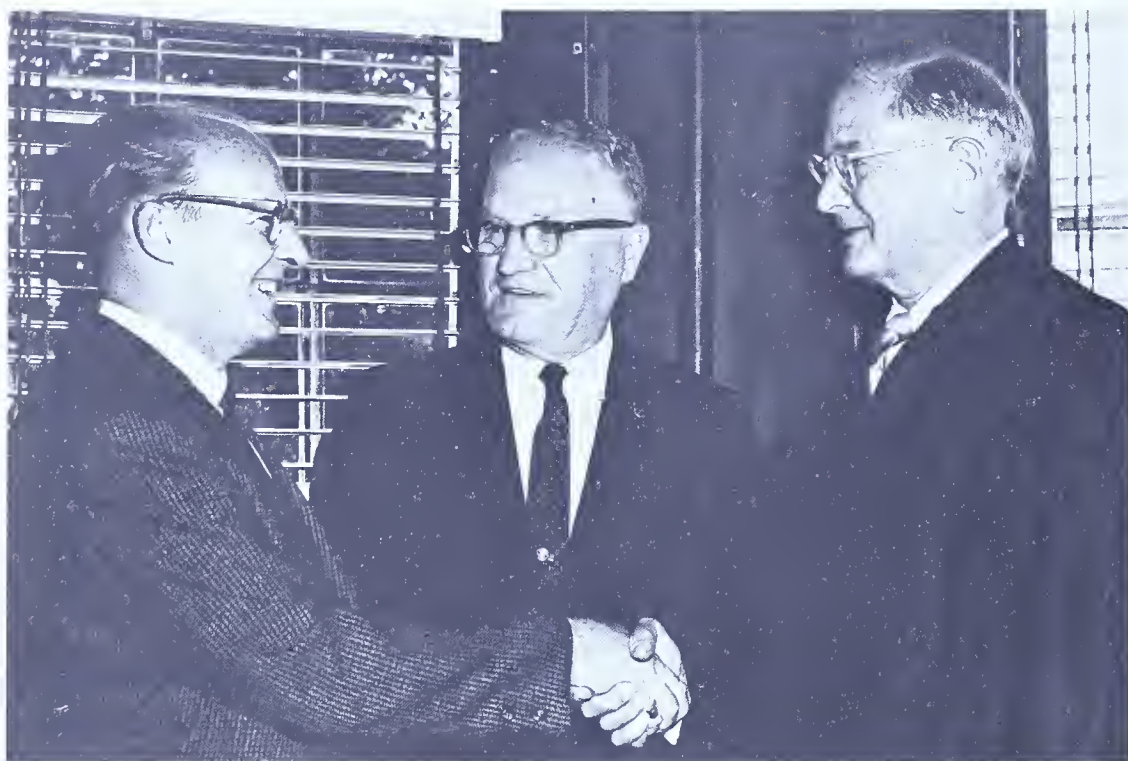
TOTAL \$ 2,973,838

EXPENDITURES FOR THE FISCAL YEAR — JULY 1, 1965 TO JUNE 30, 1966



A - EXECUTIVE AND GENERAL ADMINISTRATION, (DIRECTOR'S AND COMPTROLLER'S OFFICE, ...)	\$ 175,825
B - PROPAGATION AND DISTRIBUTION	941,635
C - LAW ENFORCEMENT	479,722
D - ENGINEERING AND DEVELOPMENT	421,487
E - FISHERIES MANAGEMENT & RESEARCH	176,159
F - LAND AND WATER MANAGEMENT	121,980
G - CONSERVATION EDUCATION	122,415
H - OTHER STATE DEPARTMENTS, (DEPARTMENT OF STATE, - STATE EMPLOYEES' RETIREMENT FUND.	217,758
DEPARTMENT OF LABOR & INDUSTRY, - SOCIAL SECURITY TAXES.	
DEPARTMENT OF REVENUE - PRINTING & ISSUING LICENSES.	
GENERAL STATE AUTHORITY - RENTALS.)	
TOTAL	\$ 2,656,981

MEET THE NEW COMMISSIONER



NEW COMMISSIONER, on left, Clarence E. Dietz, Bedford, Pa., being congratulated after being sworn in by Judge J. Colvin Wright (right) as retiring commissioner Joseph Critchfield (center) ends a long, fine period of service to the fishermen of Pennsylvania.—BEDFORD GAZETTE PHOTO

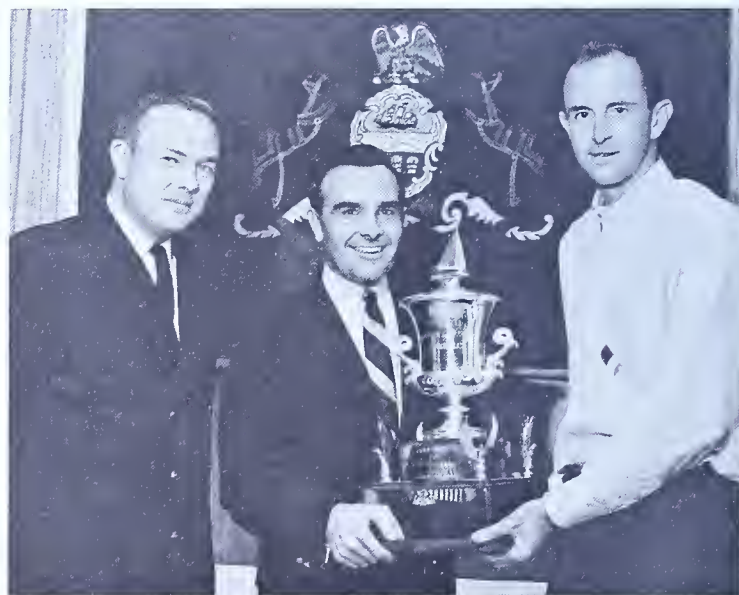
Charles E. Dietz, Bedford, Pa., has been named by Governor William W. Scranton as a member of the Pennsylvania Fish Commission for an eight year term to expire the second Tuesday of January, 1974. He succeeds Joseph Critchfield, Confluence, Pa.

Mr. Dietz was born in Turtle Creek, Pa., on April 17, 1919 and has been a resident of Pennsylvania all his life. He has been a sportsman interested in hunting and fishing since early youth.

He is a life member of the Bedford County Sportsmen's Club and, as past president, served two consecutive terms. Also a member of the Southern Rod and Gun Club at New Enterprise, Pa. Mr. Dietz has had varied experience in working with sportsmen's organizations in Pennsylvania.

A veteran of World War II, he served in the U. S. Air Force. He is presently active in community affairs and a member of many civic organizations in Bedford.

Mr. Dietz is an insurance broker by profession, a graduate of Mann's Choice High School, Mann's Choice, Pa., and attended Loyola University, New Orleans, La. He is married and has one daughter.



ROBERT ADAMS, Glenside, right, receives the Governor's Cup from **M. George Mooradian**, executive director of the Governor's Committee of 100,000 Pennsylvanians, as the top Lightning Class sailboat skipper in the state. On the left is **Martin T. Groethe**, York, commodore of the Susquehanna Yacht Club, which served as host for this first annual series on the lower Susquehanna River, below Wrightsville.





Notes FROM THE STREAMS

■ This year for the first time a conservation camp was started in Lancaster County. Boys from various scout troops throughout the county were chosen for the camp on the basis of desire to learn good conservation practices, conduct and leadership. Assistant Regional Warden Supervisor Miles Witt, Biologist Dave Daniels and I spent an entire day with these boys instructing them in fish management practices.—**District Warden SAMUEL W. HALL** (Lancaster-Lebanon).

■ Three years ago the Fish Commission stocked the Allegheny River, Potato Creek and Marvin Creek with young eels. I have had quite a few reports of eels from 20 to 26 inches long being caught in all of these streams this year.—**District Warden WILBUR WILLIAMS** (McKean).

■ Because of the Fish Commission's expanded program of introducing muskellunge in streams and lakes that never contained this fine game fish, many interesting incidents are taking place along the Bald Eagle Creek in Centre County. The local fishermen for the most part have adapted to the different fishing methods that are required to take muskies and are making many nice catches. However, there are some that still will not change their trout fishing habits while fishing for muskies. One local fisherman has caught four legal muskies on a regular trout-size spinner. Believe me, here is one guy that "would rather fight than switch."—**District Warden PAUL ANTOLOSKY** (Centre).

■ Do monkeys need a fishing license? While on patrol recently my deputy and I came upon a woman fishing. When I asked to see her license, she replied, "I'm not fishing," and pointing to a cage beside her explained, "I'm trying to teach the monkey how."—**District Warden RICHARD R. ROBERTS** (Susquehanna).

■ A local Huntingdon angler recently spent a day fishing one of the Fish Commission-owned lakes and hooked twenty-eight northerns and seven largemouth bass. This exceeded the number of fish he hooked during an entire week's fishing in Canada. The largest northern was 32 inches, and was larger than any taken across the border. Needless to say this angler intends to spend next year's vacation fishing in Pennsylvania.—**District Warden JAMES T. VALENTINE** (Huntingdon-Fulton).

■ If you don't have time to go fishing, let the fish come to you. Such was the case with William Hertzler, who likes fishing, but was too busy to go out the first day of bass season. But he caught a 15-inch bass two and one-half miles from the nearest body of water. He saw traffic near his service station dodging something in the middle of the road. Upon investigation he found the bass netted and in a plastic bag. The fish was still alive and flapping. How's that for a catch!—**District Warden PERRY HEATH** (Cumberland-Perry).

■ Recently the American eel has been caught in the Allegheny River in Warren County and many of the local fishermen have not only been wondering where they came from, but what to do with them. A load of elvers (young eels) was stocked in McKean County several years ago and apparently they have come down-river to the Warren area. When I tell people to eat them, they just won't believe me. I try to convince them by telling them that at one time they were marketed in the Susquehanna River area and were considered a great delectable food fish.—**District Warden KENNETH G. COREY** (Warren).

■ While manning the Fish Commission's live fish exhibit at the Butler Farm Show, I noticed that my perch in the fish tank had died. I decided to try and get another from the Butler Water Dams. There were only two fishermen at the dam and I walked down to the first one, who had just hooked a fish. The timing was perfect, as it was a perch and when he heard my story, he willingly gave it to me.—**District Warden EUGENE SCOBEL** (Butler).

■ Once again the pleasure boating public has chalked up a season on the East Branch Clarion River Flood Control Reservoir near Glen Hazel with no fatalities. This makes the fourteenth year in a row (since the reservoir was built) that no fatalities have been reported.—**District Warden BERNARD AMBROSE** (Elk).

■ The old story that a snake will live until sundown is sometimes classified as an old wives tale. However, there is one amphibian that is quite active for some time after the head has been removed—the snapping turtle. A fellow I know was cleaning a big twenty-pounder and had tossed the head off to the side. It didn't take his puppy long to locate this tid bit and apparently he thought it was a bone. It also didn't take long to turn his happy puppy into a ramming, twisting, squealing animal. The turtle head had latched quite solidly onto the lip of the puppy. It took one person to hold the dog and another person with two large screwdrivers to remove the turtle head.—**District Warden THOMAS L. CLARK** (Crawford).

■ A lady walked by the Fish Commission exhibit at the Jefferson County Town and Country Fair and then screamed and ran from the tent. She refused to re-enter the tent and was almost hysterical. It seems she glanced at the copy of "Pennsylvania Reptiles and Amphibians" at the display. The book was opened to the page showing rattlesnakes and she despised snakes so much that she couldn't bear to walk by the booklet of snake photographs.—**District Warden JAMES F. DONAHUE** (Jefferson).

CATCHES



DORIS CHIZMAR, age 6, of Arnots Addition is a mighty proud young lady as she holds the 25½-inch, 5 lb. northern pike she caught at Sweet Arrow Lake in Schuylkill County on a nitecrawler.



Tribune Photo—Eddie Fray

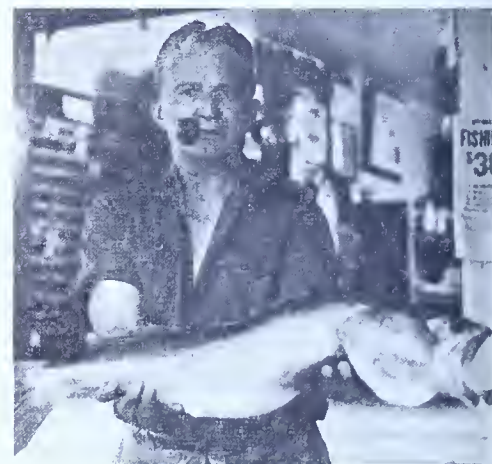
75 INCHES OF MUSKELLUNGE—Rich Donnochie (right) of McKeesport, a senior at Edinboro State College, landed pictured muskies at Conneaut Lake while trolling Creek Chub plug. Fish measured 35 to 40 inches in length. At left is Jimmy Klinginsmith, son of Meorl J. Klinginsmith, Conneaut Lake, Donnochie's father-in-law to be.



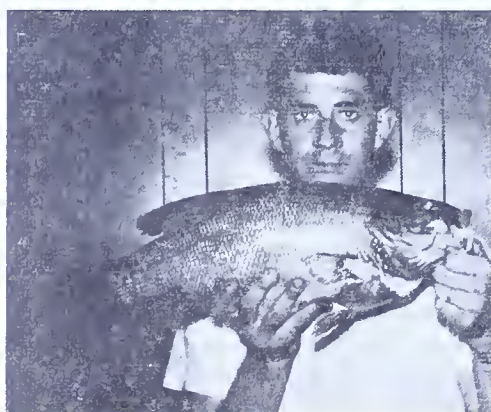
CITATION BASS, a smallmouth caught by Glenn E. Shoffer, Jr., Selinsgrove, Pa., in Penns Creek, Snyder County, on a soft-shell. The big fish weighed 4 lbs., 4 oz. and measured 21 inches.



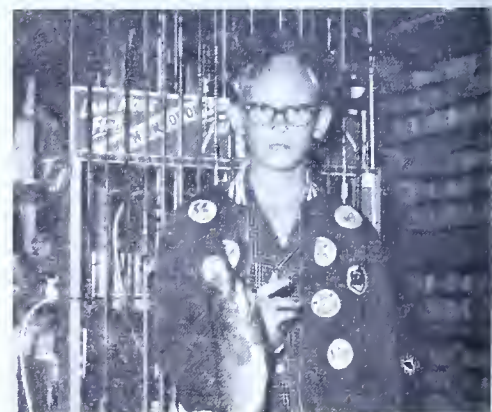
Mrs. Dorothy Lewis, of Allentown, and the 30¼-inch, 9¾ lb. walleye she caught from Lake Wollenpouck on the opening day of the 1966 season.



L. A. Fisher of Conton, Ohio and the 30-inch, 9 lb. walleye he took at Pymotuning Lake, Crawford County.



The Delaware River yielded this 23-inch, 7 lb. 1 oz. smallmouth bass. Frank Corcione, of Bethlehem, took the citation fish on a nightcrawler.



A piece of corn took this 11½-inch, 1 lb. 1 oz. rock bass. Gorry Vodello, of Selinsgrove, used a costing rod and reel to land the fish in the Susquehanna River.



Trooper Harry Jabo of the Pennsylvania State Police, Warren, and the 30-inch, 10 lb. 12 oz. brown trout that he took from the Kinzua Dam in Warren County on a live river minnow.



James Stella of Wilkes-Barre, proudly holds the walleye that rated a PENNSYLVANIA ANGLER citation. He used a fly rod with a spinner-nightcrawler combination to take the fish which measured 32¼ inches and weighed 13½ pounds, from Lake Wallenpaupack.



Citation northern pike taken by Victor L. Koroush of York, from Pinchot State Park Lake. The lunker measured 39½ inches and weighed 12¾ lbs. Koroush used a four-inch shiner minnow and spinning tackle.



BLOOMSBURG FAIR EXHIBIT was very popular with fairgoers. Regional Supervisor Clair Fleege and Northeast Regional wardens set up the exhibit.



16TH ANNUAL FISHING RODEO for youngsters sponsored by West Chester Fish & Game Assn. Chairman Charles Andress and Katherin Gooding admire 13 inch bass caught by Curt Lane, West Chester.

EVERY GOOD GUY



GIVES THE
UNITED WAY

NO SHOPPING NO WRAPPING



SOLVE YOUR CHRISTMAS SHOPPING PROBLEMS
THE EASY WAY—
AND GET 12 ISSUES OF
THE PENNSYLVANIA ANGLER
FREE!

Send 3 of your friends one year subscriptions to the ANGLER and we'll enter (or renew) your own one year subscription FREE!
We'll also send each person on your list an attractive Christmas gift card FREE!
Just fill in your friends' names and addresses (don't forget your own) on the coupon below, attach your check for \$6, and send it to us—we'll do the rest.

TO: Pennsylvania Angler
Pennsylvania Fish Commission
P. O. Box 1673
Harrisburg, Pa. 17120

Enclosed is \$6 for 3 gift subscriptions to the PENNSYLVANIA ANGLER for:

(please print or type)

	Name	Address	Zip Code	New	Renewal
1.					
2.					
3.					

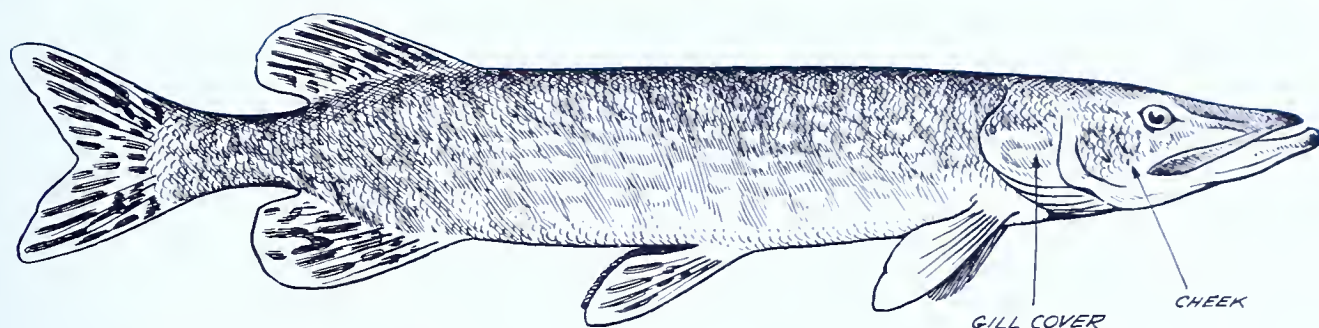
ENTER FREE SUBSCRIPTION TO:

SIGN GIFT CARDS FROM

Make check or money order payable to: Pennsylvania Fish Commission
Cash sent at your own risk, stamps not acceptable.



IT'S NOT TOO LATE FOR PIKE



NORTHERN PIKE

NOT too many years ago the northern pike was found only in western Pennsylvania. Today it can be caught in many parts of the state, especially in the larger lakes. Because it weighs up to twenty pounds and is a willing striker it provides a lot of sport.

Many anglers mistakenly call the smaller chain pickerel a "pike," and with the spread of the similar muskellunge into eastern Pennsylvania it is important that fishermen everywhere learn to identify these look-alikes.

Briefly, the pike is dark olive with many small, pale, bean-shaped spots on its sides. The entire cheek and upper half of the gill cover are scaled. The huge musky's sides are plain, or marked with vertical stripes. It has scales on only the upper halves of the cheeks and gill covers. The pickerel, smallest of the three, has a coarse, chain-like pattern on the sides. Both gill covers and cheeks are fully scaled.

If the weather doesn't turn too cold the northern pike will hit well as late as mid-November. Pike like cover, so fish carefully around weed beds, sunken trees and brush, and along drop-offs. They will hit surface plugs, but the best lures are wobbling spoons, particularly the red-and-white ones. Floating plugs that dive on the retrieve, sinking plugs, and jigs are also good. Some of your lures should be weedless.

Frequently a pike will follow a lure, then turn away without grabbing it. By speeding up the retrieve he can sometimes be teased into striking it. At other times one will take the spoon or plug in his mouth and swim toward the boat. When this happens you can hardly feel it, so be sure to set the hook at the slightest nudge—don't wait for a smashing strike.

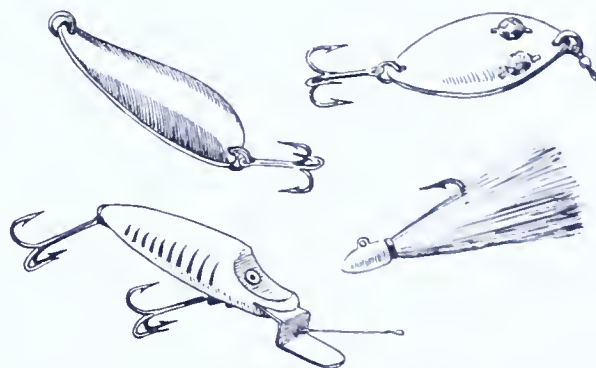
Because the pike has needle-sharp teeth it is best to use a short wire leader—the nylon covered type is least apt to kink. Be careful to keep your fingers out of his mouth when unhooking him. If you don't have a landing net ease your thumb under one gill cover and a couple of fingers under the other and pick him up by the "scruff of

his neck." Even twenty pounders will hold still when held this way. Use long-nosed pliers or special "hook-outs" to remove the hooks.

SPIDER TIME

Some years early November treats us to a spell of clear days and very warm weather. Insects become active, especially winged ants. Silky strands of gossamer can be seen drifting through the air or streaming from bushes and trees. These filmy threads are special "parachutes" of silk that certain spiders spin to carry them on long, wind-borne journeys. If you happen to be on a lake or large stream at the time you'll notice these spiders scampering across the water or being dragged across the surface as their parachutes are blown about in the breeze.

Fish notice these spiders, too, and often go on lively feeding sprees that can result in the best fishing of the year. Watch for the widening rings made by feeding fish. Casting a surface plug or bass bug at the spot will often produce a strike. Largemouth and smallmouth bass, fall-fish, pickerel, pike, and various panfish will feed on November spiders.

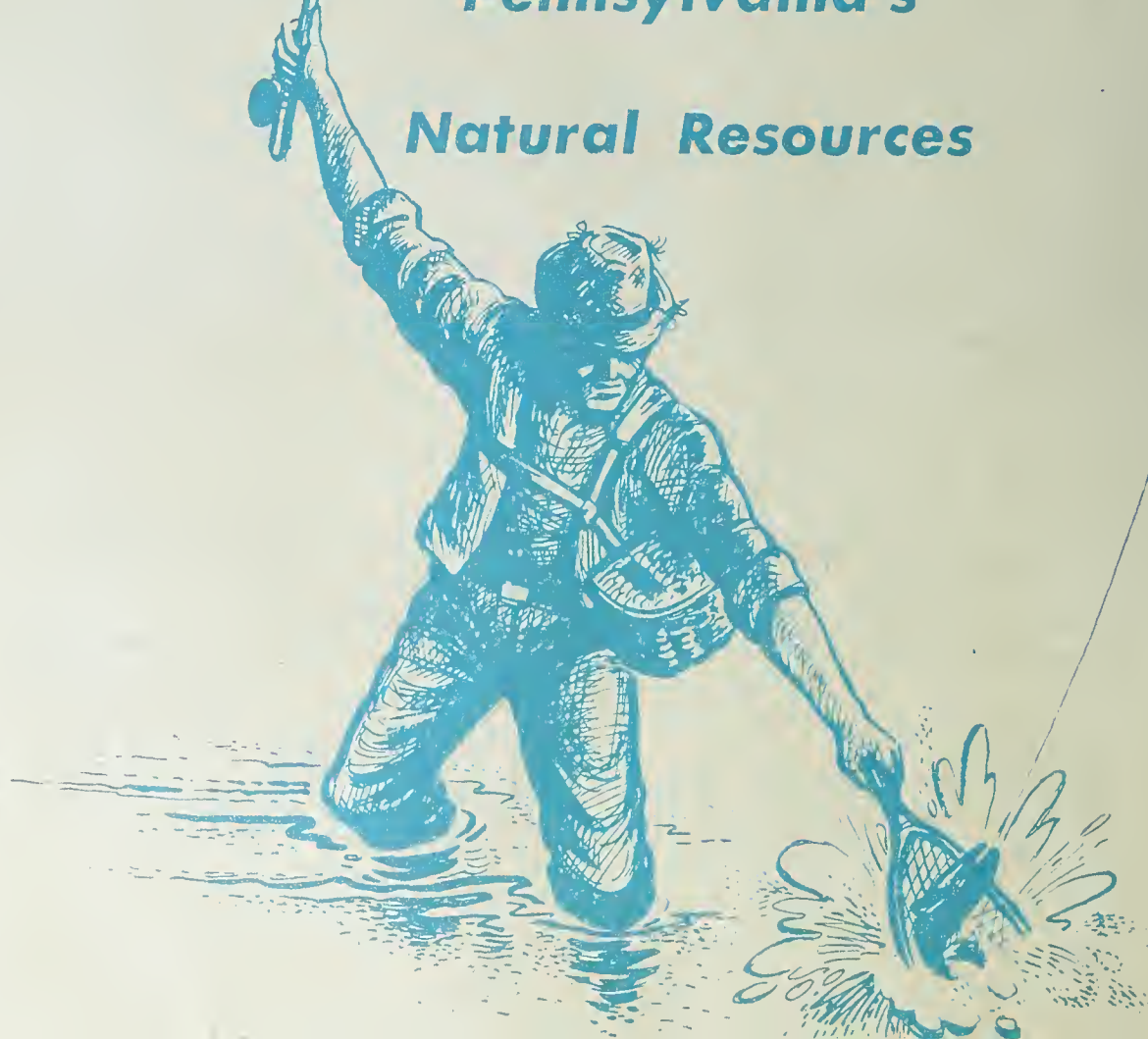


SOME POPULAR PIKE LURES

PENNSYLVANIA FISH COMMISSION

— *100 Years* —

**Fighting For
The Conservation of
Pennsylvania's
Natural Resources**





38.31
16
Pennsylvania



Angler



JOHN F. CLARK

PENNSYLVANIA STATE LIBRARY
DOCUMENTS SECTION

December - 1966

JAN 22 1967

**PENNSYLVANIA
FISH COMMISSION
DIRECTORY**

EXECUTIVE OFFICE

ROBERT J. BIELO
Executive Director

GORDON TREMBLEY
Assistant Executive Director

EDWARD R. THARP
Assistant Executive Director
Watercraft Safety

WARREN W. SINGER
Assistant to Executive Director

PAUL F. O'BRIEN
Administrative Officer

JOHN M. SMITH
Comptroller



DIVISION DIRECTORS

KEEN BUSS
Research and Fish Management
R. D. 1—Box 200-C
Bellefonte, Pa.—16823

HOWARD L. FOX
Propagation and Distribution
Bellefonte, Pa., R. D. 3—16823

GLEN SPENCER
Real Estate
Harrisburg

EDWARD MILLER
Engineering
Bellefonte, Pa., R. D. 3—16823

WILLIAM W. BRITTON
Law Enforcement
Harrisburg

ARTHUR BRADFORD
Pathology
Bellefonte, Pa., R. D. 1—Box 200-C
16823

GEORGE FORREST
Public Relations
Editor
Harrisburg

TOM EGGLE
Staff Writer-Photographer



REGION ONE

S. CARLYLE SHELTON Warden Supervisor
Tionesta 16353 Phone: 814-755-8811

REGION TWO

JOHN I. BUCK Warden Supervisor
R. D. 2, Somerset, Pa. Phone: 814-445-4913

REGION THREE

CLAIR FLEEGER Warden Supervisor
351 Terrace St., Honesdale, Pa.,
Phone: 717-253-3724

REGION FOUR

HAROLD CORBIN Warden Supervisor
R. D. 2, Annville, Pa.,
Phone: 717-273-2601, Ex. 86
I. G. M. R. 17003

Pennsylvania Angler

Published Monthly by the
PENNSYLVANIA FISH COMMISSION
COMMONWEALTH OF PENNSYLVANIA

William W. Scranton, Governor



PENNSYLVANIA FISH COMMISSION

GERARD J. ADAMS, President Hawley
WALLACE C. DEAN, Vice President Meadville

CLARENCE E. DIETZ Bedford

HOWARD R. HEINY Williamsport

DOUGLAS MCWILLIAMS Bear Gap

RAYMOND M. WILLIAMS East Bangor

GARRETT P. MORTENSEN Newville

ROBERT M. RANKIN Galeton

R. STANLEY SMITH Waynesburg



DECEMBER, 1966

VOL. 35, NO. 12

Contents

- 2 YELLOW BREECHES COUNTRY—John R. Swinton
- 6 PEOPLE WHO HAVE NEVER FISHED WITH ME—Jim Hayes
- 8 FISHING WITH KIDS—Henry H. Graham
- 11 A KEYSTONE CAROL—Bob Cavanagh and A. I. Alexander
- 12 WALTON'S FAVORITE FLIE—Don Shiner
- 15 WAYNE COUNTY KOKANEE—Tom Egger, Staff Writer-Photographer
- 16 LOOKING AHEAD TO KINZUA—Tom Egger,
Staff Writer-Photographer
- 19 FISH CULTURE SCHOOL—Tom Egger, Staff Writer-Photographer
- 20 NORTHWESTERNERS HAVE ANSWER—Robert J. Bielo,
Executive Director, Pennsylvania Fish Commission
- 21 NOTES FROM THE STREAMS—By the Fish Warden, Pennsylvania
Fish Commission
- 26 BOATING—Robert G. Miller
- 29 SCHOOL'S OUT—Ned Smith

Cover art by John F. Clark

POSTMASTER: All 3579 forms to be returned to Dunlap Printing Co., Inc., Cherry and Juniper Sts., Philadelphia, Pa. 19107.

The PENNSYLVANIA ANGLER is published monthly by the Pennsylvania Fish Commission, South Office Building, Harrisburg, Pa. Subscription: One year—\$2.00; three years—\$5.00; 25 cents per single copy. Send check or money order payable to Pennsylvania Fish Commission. DO NOT SEND STAMPS. Individuals sending cash do so at their own risk. Change of address should reach us promptly. Furnish both old and new addresses. Second Class Postage paid at Harrisburg, Pa. Neither Publisher nor Editor will assume responsibility for unsolicited manuscripts or illustrations while in their possession or in transit. Permission to reprint will be given provided we receive marked copies and credit is given material or illustrations. Communications pertaining to manuscripts, material or illustrations should be addressed to the Pennsylvania Fish Commission, Harrisburg, Pa. NOTICE: Subscriptions received and processed the 10th of each month will begin with the second month following.





Yellow Breeches Country

By JOHN R. SWINTON

ONE morning late last May a great brown trout rose from the depths of the Wachusett Reservoir near Worcester, Massachusetts, and, possibly mistaking it for a crippled parr of his own kind, snatched an iridescent red metal lure. When finally boated, this classic specimen of *salmo trutta* measured 31½ inches and weighed 19 pounds, 10 ounces—a new Massachusetts record for brown trout. His prodigious size also earned for him, and for the user of the red lure, national recognition through the United Press International wirephoto service.

On Monday, May 23, the photograph with its caption appeared in the Carlisle, Pennsylvania, *Evening Sentinel*; so early the next evening, as they sat on the grassy banks of the small, limestone stream which glides through Carlisle, two venerable fly fishermen discussed the fate of the Massachusetts fish.

"He was a good brownie, no matter how he got caught," the first man offered, pulling on his glossy mahogany pipe.

His companion hesitated for a moment before replying slowly and carefully, "Not much trick in getting a big brown to take a spoon and then landing him on spinning gear."

Both seemed satisfied with this observation and said no more until delicate *plips* on the water's surface signaled rising fish. Silently then the two stood and, assuming separate stations on the stream, began to flick tiny bits of hair and feathers out over the feeding trout.

This pair, as well as the whole brotherhood of serious fly fishermen centered around Carlisle, may be excused if they are mildly contemptuous of the Wachusett angling feat; because, with whiplike fly rods and wispy artificials, they stalk, in any of four or five local streams, trout big enough to rival even the new Massachusetts record. For proof, read this report taken from *The Sentinel* only a month earlier:

"A Shippensburg fisherman caught what may be the largest trout ever taken in Central Pennsylvania waters Saturday in the Big Spring near Newville. He snared a trout measuring 31½ inches and weighing 14½ pounds, according to a spokesman at the store where the fish was taken. He used a night crawler for bait."

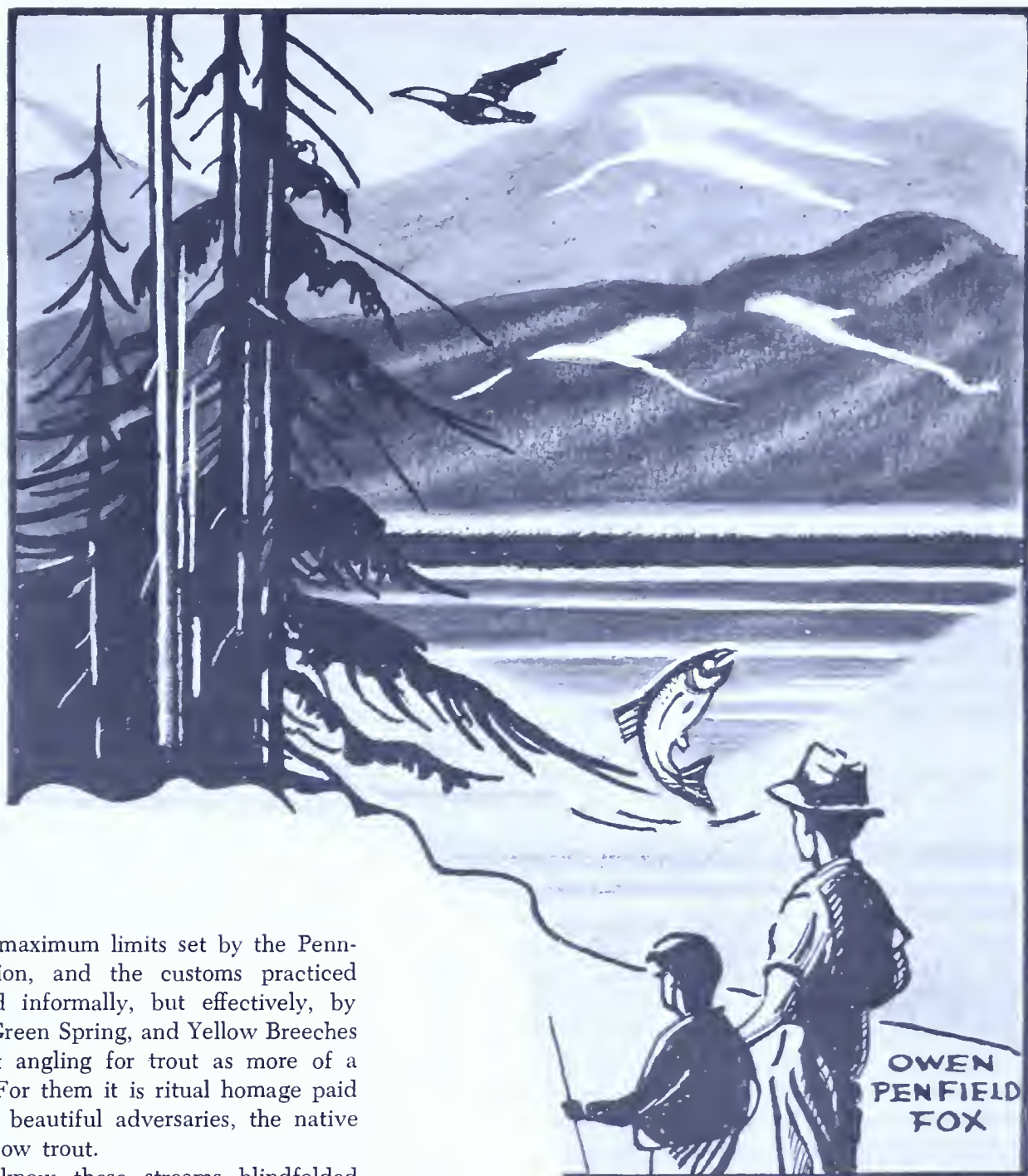
If the Wachusett brown is impressive, the Newville fish—also a brown trout—taxes credibility. While the two were practically the same length and their weights differed by only five pounds, a comparison of their respective habitats quickly and dramatically sets them apart. The deep and sprawling Wachusett Reservoir is the second largest impoundment in a state replete with fine, and large, fishing lakes. The Big Spring, in contrast, meanders through gently sloping meadowland for a mere five miles before emptying into the sluggish Conodoguinet Creek. Nowhere is it wider than 40 feet or more than five feet deep!

Was the Newville brown simply a freak of nature, or perhaps an artificially stocked worn-out hatchery breeder? The thorough Big Spring fly casters return an emphatic "no" to both possibilities. They had anxiously followed him along the cress beds and elodea for the last five summers, learning his food preferences and favorite haunts and knowing him for a sleek, stream-bred native. He was familiar to all of them—almost a friend—long before that momentary fatal weakness prompted him to seize a garden worm.

As large as he was, however, he was not completely unique. Already this spring in the Carlisle area two or three other massive brown trout have been located, quietly scouted, and gingerly tempted with imaginative dry fly patterns. But if one of them succumbs, the weekend worm fishermen and the newspaper readers may never hear of it, for the secret of the old trout's hiding place will be guarded by a canny, independent fly caster who released him to live and to fight again.

It is only when a sly veteran like the Newville brown abandons caution and gulps at a night crawler dangling from heavy line and stout tackle that the tyros even suspect what the proficient fly fishermen around here have always known: monster trout lie in the narrow, silky streams near Carlisle.

Trout fishing in the Carlisle area differs from the angling anywhere else, except on a few English streams, and the techniques have been refined and honed until cumulatively they comprise a fine, graceful art. Also—and by way of warning to anyone planning to fish the area—two sets of rules govern trouting on the local limestone streams:



the minimum sizes and maximum limits set by the Pennsylvania Fish Commission, and the customs practiced religiously and enforced informally, but effectively, by the Letort, Big Spring, Green Spring, and Yellow Breeches fly fishermen, who treat angling for trout as more of a privilege than a sport. For them it is ritual homage paid to strong, cunning, and beautiful adversaries, the native brook, brown, and rainbow trout.

The fishermen who know these streams blindfolded (they frequently cast late into the night) rarely keep any trout; some of them would have released even the Newville brown. Only an occasional trophy fish — usually an old cannibal male, hook-nebbed and past spawning — ever comes to adorn their mantels and dens. This custom is not quite so forcefully imposed on visitors who may want to keep, as a trophy mount, a seven or eight pound, 25-inch brown trout; but the basic code remains "Limit your kill, don't kill your limit!" and a violator is *persona non grata*. Predictably, barbless hooks are preferred on all of the local water, and they are mandatory over much of the Letort Spring, a delicious stream rising in a patchwork watercress plantation and winding through the east side of residential Carlisle.

Captured trout receive such respect and solicitous attention that they are often unhooked and freed without ever leaving the water. When they are handled, however briefly, their minute scales and tender skin are carefully kept moist. Moreover, because the slightest tremor in the mud and even faintly roiled water invariably alerts the wary

trout, wading, a tactic employed readily on freestone streams, occurs in limestone water only where the surrounding foliage might otherwise block a backcast and hinder fly presentation.

The resident fly casters form a varietal lot which may include, among dentists, writers and college professors, unemployed truck drivers and filling station attendants. Most have earned the respect of the others by demonstrating their sportsmanship, consequently their individual fishing idiosyncracies are marked and accorded the same deference paid the trout they stalk.

To illustrate: During one of my first spring evenings on the Letort, I noticed a grizzled old fellow eyeing me disdainfully. Finally he scratched his neck, spit tobacco juice, and growled, "Fish here much?" I allowed that I hadn't, much.

"Thought so," he replied haughtily, "we don't like elbow-to-elbow fishing along this water. There's plenty of room here for everybody."

His stern reprimand perplexed me for he had not offered a fly in at least a half-hour; also the site of my own casting was a courteous 30 yards from where he sat in the grass apparently lost in reverie. But my lessons were quickly learned: Thirty yards is too close for some limestone casters, and simply because a man is not casting is no reason to conclude that he is not fishing. My censor, it developed, had been watching the ripples of a specific rising trout and, as I backed away, he deftly shot a #20 midge above the dapple of water and chuckled in smug appreciation as a 12-inch fish arose to the fly and sucked it in.

As soon as he realized that I intended to conform to the rules of the stream as he defined them, the old man and I became fast friends. He ended our evening by relating most of his private trout philosophy, supplying emphasis where it was needed by splashing tobacco juice against a handy tree stump. At length he paid me for my attention with an assortment of exquisitely tied flies, explaining that he no longer sold them but rather enjoyed spreading them among novice fly casters—like, as I thought to myself, some kind of Johnny Appleseed.

A mecca for many skilled trout anglers across the country and paradise for Central Pennsylvania fly casters, the shady borough of Carlisle, just five hours west of Manhattan by either Route 22 or the Pennsylvania Turnpike, boasts proximity to four of the finest trout streams in the East. Yet, strangely enough, fishermen constitute only a small segment of the visitors to this college town. By far the two greatest groups of tourists are parents whose visits coincide with the spring weekends and vacation schedules at Dickinson, Gettysburg, Shippensburg, and Wilson colleges, and the Civil War students who come in all but the winter months to pace and explore the Gettysburg battlefields. Except for huge concentrations of early season anglers on the famous Yellow Breeches Creek, the fishing pressure remains remarkably light.

Even more strangely, the number of visiting fishermen dwindles during the summer when the swiftly flowing spring waters keep their soft banks and the air above delightfully cool, and the fish rise voraciously to the myriads of insects hatching throughout the day and well after dusk.

A trout fisherman can easily bring his family to Carlisle and settle for a pleasant stay in any one of a dozen well-appointed and reasonably priced motels, content in the knowledge that, if he plans to fish alone, his wife and children can spend exciting hours at historical landmarks and places of genuine scenic beauty nearby.

The trout streams themselves lead to some attractive sights: The picturesque old mill in Newville, along Route 641, tumbles some of the Big Spring over an old-fashioned water wheel and its adjoining waterfall; one of the largest fish hatcheries in the world, the Huntsdale Station, diverts and utilizes the clear headwaters of the Yellow Breeches Creek; the lower reaches of the Letort Spring twist, in dual strands, through the Carlisle barracks of the United States Army War College, which used to be the Carlisle Indian School of Jim Thorpe fame; and popular Allenberry

Playhouse, together with the Allenberry restaurants and hostels, rests on a bluff above a lively riffled stretch of the Yellow Breeches. The Boiling Springs, in the village of the same name, form a major tributary of the Yellow Breeches. These springs bubble steadily into an eight acre limestone pond creating a current just strong enough to carry a dry fly and a shady refuge for an exotic private collection of wild ducks and cranes.

There are many other sights to see and trips to take: The tidy campuses of the four colleges already mentioned may interest college-conscious parents; from a mountain crest 1479 feet high and only seven miles west of Carlisle on Route 74, the Waggoner's Gap overlook offers a spectacular view of the entire Cumberland Valley panorama of farms, orchards, and settlements; and if there is anyone left who has not toured Gettysburg, he could easily devote days to examining the thousands of monuments and statues screened by a spreading facade of wax museums, motels, souvenir shops, and custard stands. Gettysburg lies 30 miles south of Carlisle over Route 34 which dips leisurely through the Adams County apple orchards along the way.

A wife who expresses dismay at the prospect of visiting shrines and viewing scenery while her husband fishes often responds differently at the mention of abundant antique shops and public sales. A short drive from Carlisle east to Hogestown along Route 11 covers enough antique stores for a day's browsing without even scratching the surface. Newly discovered caches of fine old cherry and oak farm furniture and 19th Century Western Pennsylvania pressed glass, for examples, draw collectors—and, inevitably, dealers—to Carlisle regularly. And, on almost any summer weekend, two or three barking auctioneers knock down prize antiques at the public sales in the area. *The Evening Sentinel* lists advertisements for these sales weeks in advance, and each one exudes a festive, country fair atmosphere complete with laughing children, refreshment booths, lemonade, and some real bargains.

Whether you drift a fly or simply appreciate the natural, harmonious composition of rolling green pastures, cool woodlands, and clear spring-water streams, the four Carlisle trout runs are attractions in their own right.

The *Letort Spring* surfaces in watercress farms and gathers strength as it whispers by a bustling stone quarry, slips under Interstate Route 81 just south of Carlisle, skirts the neat community park, and passes through the War College. Barn swallows and gaily colored warblers wheel and dart over the water collecting juicy insects which supply fat and protein to brown trout lurking in the cress beds. Brook trout also breed in the cool Letort headwaters, and recently there have been hopeful signs that hold-over rainbow trout may spawn there too.

Such loveliness could only be spoiled by man. Sadly, few trout survive in the last mile of the Letort as it spills under Route 11 and dashes into the Conodoguinet, for here the borough has built its sewage treatment plant. Despite their earnest pleas on local television, in the newspapers, and before civic groups, the Letort anglers have failed so far either to inspire general sympathy for the stream's plight or to collect the prohibitive cost of piping the effluent directly into the larger and warmer creek.

In Newville, ten miles west of Carlisle along Route 641, the *Big Spring* runs crystal clear its entire length. Its flow leaps from a rock fissure, four miles south of town, at a constant temperature of 52 degrees; even at its mouth, Big Spring rarely warms to more than 65 degrees. The stream touches mostly farmland except for a small private fish hatchery and some crumbled mill dams. Unlike the Letort, hatchery trout periodically augment the Big Spring fish population, but the preponderance of the fish are native browns and some native brook trout in the first mile of the stream. (In addition to confirmed reports of brown trout catches in the seven to ten pound range, rumors of three and four pound brookies, deep of body with rich brown backs, slate vermiform markings, and spots of blue, yellow and crimson, steal through Newville often enough to earn some belief.)

Four miles farther west, two threads of water trickle separately beneath Route 641 quickly joining on the right side of the road to form the *Green Spring Run*—a dainty miniature of both the Letort and the Big Spring. Most of the fishable water on the Green Spring has been restricted for fly fishing, and while the trout are not quite as large here, they gorge themselves on the same generous concentrations of insects, plankton, and crustaceans which enable the other two limestone streams to support heavy trout populations and to nourish such huge individuals. What the Green Spring trout lack in size they make up in vivid coloration. A short stop at the rustic commercial trout hatchery near the source of the Green Spring's more westerly branch will reveal how extraordinarily beautiful and well marked these trout become in the sweet limestone water.

Drive either Route 34 south to Mount Holly Springs or Route 74 east to Boiling Springs and you meet the *Yellow Breeches Creek*—the widest and, at 37 miles, easily the longest of the four Carlisle area trout runs. Perhaps because bait fishermen land hundreds of hefty trout from the early season put-and-take plantings, perhaps because the Yellow Breeches pros choose to discuss in magazine articles their consistent catches rather than their hours of dutiful ground-work, or perhaps because of its intriguing name, the Yellow Breeches Creek commands a glowing reputation among the trout fishing public at large. Ironically, mile for mile, it is a better natural bass stream than a trout haven, and most of the rainbows, brownies, and brook trout taken here are first season hatchery fish. However, some of the browns and a few of the brooks are tough hold-overs from a previous year's stocking, and a handful of the brown trout may be natives spawned beyond the reach of the choking silt deposits shifting in the brisk current.

Because the state fish commission and a local anglers' club keep the creek well stocked, fishing remains active throughout the summer evenings, especially in the Huntsdale region and along the one-mile stretch of water between Boiling Springs and Allenberry. Those anglers who employ small streamers and wet flies play and release an inordinate number of the hatchery trout, which seem to be particularly fascinated by bright colors and struggling minnows.

Of the four streams, only the Yellow Breeches carries water of mixed composition. A couple of its strong feeders—the Boiling Springs, for one—are limestone, but various freestone spates contribute equally to the total flow. Like the other three, however, the Yellow Breeches cools the surrounding summer air, nestles comfortably in a setting of farms and woods, and holds the promise of fighting trout.

These final remarks are directed to eager fly casters already bent on choosing their gear for a long weekend or a short vacation of genteel trout fishing in the Cumberland Valley:

Keep your tackle light. A two or three ounce fly rod, between six and seven feet long, mounted with a small, double action fly reel, and threaded with light floating fly line (AFTMA designation F4DT, for example) should be sufficient. Carry a selection of gut or nylon tippets ranging in tapered strength from 3X through gossamer 7X.

It should not surprise you that, among such individualistic and exacting sportsmen as those of the Carlisle fly casting fraternity, thoughts regarding the most effective patterns differ considerably. But any fly box census would undoubtedly reveal imitation crickets, brown grasshoppers, and ants; Adams flies (for the upper portion of the Big Spring where the brook trout feed); light buff and yellow creations like the Light Hendrickson, Light Cahills, the Pale Evening Dun, and Yellow Mays; and, in prominent niches of honor and ready accessibility, patterns fashioned after *ephemerella dorothea*—the favored "sulphur fly" or Yellow Drake.

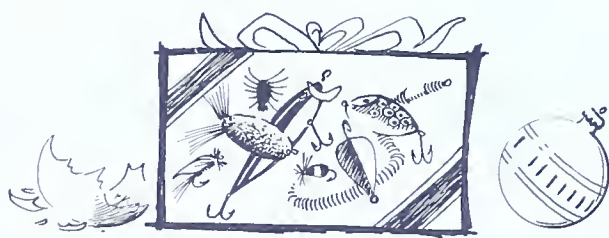
Special "Letort" flies have sold at Abercrombie and Fitch in New York City and perhaps they still do. Certainly their dissemination so far afield broadly suggests the quality of the Carlisle trouting. Hook sizes between #14 and #20 predominate—with the barbs pinched down.

A few of the most dedicated casters have been known to tie their flies on improvised benches along the stream as they watch a particular fish feeding; many more carry large assortments collected through years of plying the local waters; but, like any trout stream where the fish rise consistently to insects, the commonly tied and commercially distributed patterns often work just as well.

Polished angling etiquette, with all intentions of frying a creelful of trout for lunch put firmly aside, goes a long way out here toward making friends and enlisting advice and assistance. Perhaps you will have the luck to hook one of the trophies that volplane up and down these splendid streams spilling wakes against the elodea and occasionally rolling to gulp a mayfly or a cress bug. But don't be astonished to see a great trout lifted from the water, admired briefly by a fisherman savoring his moment, and then gently guided back among buoyant banks of watercress undulating in the current. Most likely this angler, like his many compatriots, has cheerfully withstood the derisive accusation of "purist" from more than one bait fisherman and has learned the wisdom of the motto:

"If you would catch more, you must kill less."

People Who Have Never Fished With Me



By JIM HAYES

ON the last Saturday in April I was fishing the meadow stretch of the First Fork about Wharton when a nine-inch brown trout gobbled up my last remaining worm. I hooked the fish, dragged it ashore, conked it on the head with the handle of my knife, and slid it into a plastic bag to join the seven incher I was saving for supper.

Being out of bait, I had no choice but to switch to flies or quit fishing. Fortunately, I located in a pocket of my fishing vest a box of dry flies, from among which I selected a No. 16 Red Ibis. This I tied to a four foot length of 8-pound test monofilament and began casting. There being no hatches of Red Ibis on the water, I had no expectation of catching any more trout, but any fishing is better than no fishing.

On my fourth cast a ten inch rainbow trout stuck its head out of the water to see what was going on. When it saw me fishing with a fly, it opened its mouth in astonishment. At that instant my fly drifted past and the hook snagged him in the corner of the jaw. He began jumping, I reached out with my landing net, and he landed kerplow in the net. I unhooked the fish preparatory to bonking it on the head when it slithered out of my hands and flopped back in the creek. To an onlooker, it probably appeared that I released the trout deliberately.

The angler who approached me evidently had that impression. He was a short, stout, bespectacled fellow with a pointy-tipped waxed moustache. He was dressed like he had just stepped out of an Abercrombie & Fitch display window. He was carrying an Orvis rod in one hand and a wading staff in the other.

"I beg your pardon," he said, "but I saw you hook that trout on the dry fly. I believe we may have met somewhere. Have you by any chance ever fished the Brodhead?"

"Indeed I have," I replied. "I have not only fished the Brodhead, but I have even fished the Paradise at Henryville."

"Your name," he inquired, "wouldn't happen to be Arnold Gingrich, would it?"

"I'm afraid not," I said. "Arnold Gingrich smokes Sweet Caporals. I roll my own. Besides, I am a *Playboy* subscriber myself."

"Are you Ernie Schwiebert?" he persisted.

"Sorry," I said. "I'm afraid that I am not anybody. Leastways I am not anybody you ever heard of."

"I see," the stranger said. "What you are trying to tell me, in other words, is that you are not camp."

"My friend," I said, "I am not only not camp, I am uncamp. I am so far out of camp I don't even register on their radar."

He began backing away from me. "What is that tomato can doing in your hip pocket?" he asked.

"That is to carry worms in," I explained. "But I'm fresh out. You wouldn't happen to have a spare worm on you, would you?"

He looked sick. "You can't be serious," he gasped. "I saw you take that trout on the dry fly."

"That was an accident," I said. "The only reason I am fishing flies is because I am out of worms. Are you sure you don't have an extra worm in your pocket?"

"Aaaargh!" he said. "Ptooeey!" He glanced around nervously. "I hope nobody saw me talking to you."

Being a worm fisherman, I am accustomed to being snubbed. I have been snubbed by experts. But this was the first time I had ever been snubbed by a short, stout, bespectacled fellow with a pointy-tipped waxed moustache. It got me riled.

"Worms!" I shouted at him. "Nightcrawlers, salmon eggs, salted minnows, preserved shrimp. . ."

He cringed, turned white, winced, and held his ears, each horrid word seeming to flay him like a whiplash.

"Grasshoppers!" I cried. "Crayfish! Fish eyes! Canned corn! VELVEETA CHEESE!"

He slumped to his knees, sobbing.

Realizing that I had gone too far—I had no wish to destroy the man—I placed my hand on his shoulder. "I'm sorry," I apologized. "I lost my head."

"Please," he gasped. "Please don't touch me!"

He staggered to his feet, stricken, and went lurching down the creek. I watched him out of sight. I rolled a cigarette to steady my nerves. Then I resumed fishing, casting to the head of the riffle where I stepped on a tilting rock and floundered in over my boot-tops. It served me right for fishing a dry fly in the first place instead of turning over stones until I found a worm.

That night, joining a gathering of anglers in the hotel bar, I got involved in a name-dropping contest. The way you play this game is you call out the names of every body you have ever fished with. If anyone present recognizes one of the names, you are immediately disqualified. Also, if you should name a person who fishes with flies exclusively, you are obliged to stand on the bar and read aloud a chapter from Vince Marinaro's book, *A Modern Dry Fly Code*.

I have participated in name-dropping contests that lasted all night, but during this particular session the axe fell thomp-thomp-thomp. Fuzzy Burglund rattled off nine names and came a-cropper when he said he had fished with Harvey. Max Greeley racked up a string of a dozen names until he recalled fishing with the Wycoffs. By the time Paul Hostetter turned the light off and pointed meaningfully toward the door, everybody had been disqualified except me. No one had ever heard of the people I fish with.

Charles Cotton fished with Izaak Walton, and Walton boasted of fishing with Sir Henry Wotton. Connett fished with La Branche, La Branche fished with Hewitt, and Hewitt fished with Gordon. Hewitt also fished with John Alden Knight, Knight fished with McClane, McClane fishes with Zern, Zern fishes with Gingrich, and Gingrich fishes with everybody who is anybody. Myself, I never fished with anybody famous. I am a walking Who's Who of Anglers Anonymous.

One reason is because I don't fish the right places. To correct this, I once fished the Paradise at Henryville. This stretch is a kind of trout fisherman's version of feeding the carp at Pymatuning causeway, and whereon was created that most devastating of all fly patterns, the Artificial Trout Pellet. This fly is tied by wrapping several turns of brown yarn around the shank of a No. 18 hook. It can be fished either dry or wet, depending on whether the natural trout pellet it is designed to imitate is of the floating or sinking variety.

I went to Henryville with the idea of meeting and maybe even (dream of dreams!) getting to fish with Somebody, some person whose name I could thereafter drop casually in conversation: "I was fishing last week-end with. . . ." You can guess what happened. There was not a single famous fisherman on the premises at the time of my visit. I ended up fishing with a retired streetcar conductor named Angie Gastronelli from Trenton, New Jersey.

That is pretty much the story of my life. For the past five years I have had a standing engagement to go fishing with George Harvey. For some reason or other we have never gotten together. I have an open invitation to join Charley Fox on the Letort; this has likewise never come to pass. Chauncey Lively lives not far from me but we have never fished together. I bump into Sam Slaymaker occasionally, but we have yet to wet a line in each other's presence.

Some others who have never fished with me include Al McClane, Sparse Gray Hackle, Charles Wetzels, Ted Trueblood, Ed Zern, Joe Brooks, Roderick Haig-Brown, Corey Ford, Edmund Ware Smith, Frank Dufresne, Lee Wulff, Vince Marinaro, George Laycock and Eugene Connett. I am a great admirer of Robert Traver, but we have never even met much less tangled lines. I would give anything, even my new fangled worm dispenser, to be able to say that I fished with the druggist at Austin before he gave up night fishing. But I never did.

As recently as this past spring I was supposed to have hit the Shad-fly hatch on Penns Creek with Buss Grove. Unfortunately, the hatch was delayed by unseasonable

weather, came off in mid-week instead of on a week-end, and I was unable to get off work.

I have never, alas, fished the Willowemoc, the Beaverkill, the Neversink, the Esopus, or any of the Catskill streams. I was born too late to gain the acquaintance of Theodore Gordon, Edward R. Hewitt, Henry Van Dyke or George La Branche. I have never owned an Orvis rod, nor am I a member of the Angler's Club, the Fly Fishers, or any private fishing clubs. I never created a new fly pattern, leastways one that anybody ever took seriously. They laugh when I sit down to my vise.

I am not entirely without redeeming qualities. I do own a Hardy rod, an unwieldy 14 foot derrick known as the Hardy Upstream Wormer. Unless it got lost in our last moving, it is probably stashed away someplace in the garage. One of my proudest possessions is a worm can once owned by the early worm fisherman, that giant among anglers, the intrepid Ramsey Fitz-Hugh.

The remainder of my tackle is an odds-and-ends collection of Sears Roebuck, five-and-dime store, and hardware store equipment. My problem, you see, is that I break things. Never in my life have I gotten through an entire trout season with the same tackle I started out with on opening day. Obviously, if you are going to break things, it is better to break a \$4.95 fiberglass rod than a hundred dollar split bamboo job from L. L. Bean.

One reason I have never fished with anybody famous is because, oddly enough, I go fishing to get away from people. Actually, I prefer to fish alone. I am not a snob. If you are out of bait and I have two minnows left in my bucket, I will gladly give you one provided you agree to go away and fish it elsewhere. All I ask, really, is that you fish your pool and I'll fish mine, and when you are ready to quit fishing and go home, goodbye my friend, I am staying on and will get home the same way I got here, all by my lonesome.

None of which is conducive to being able to say that you have fished with Ray Bergman or somebody like that. And I would be less than human if I didn't confess to feeling at times dreadfully left out of things. Deep in my heart I nurture the secret ambition, never before revealed, to some day find myself in an ultra-exclusive fishing club engaged in conversation with a gathering of distinguished anglers and be able to remark quite casually, "Y'know, Corey, it's strange that you should mention that because just the other day I was fishing the Junction Pool on the Willowemoc with Al McClane and he said. . . ."

But with my luck at that moment a short, stout, bespectacled fellow with a pointy-tipped waxed moustache and carrying an Orvis rod in one hand and a wading staff in the other would step forward from the audience, peer at me intently, and say, "I beg your pardon, old chap, but I believe we have met somewhere. Have you by any chance ever fished the meadow stretch of the First Fork above Wharton?"

Right there and then, my friends, would go the ball of wax, the cherry cupcake, the whole glorious ding-dong ballgame. Worms! Nightcrawlers! Salmon eggs! Preserved shrimp! Salted minnows! Grasshoppers! Junebugs! Canned corn! Fish eyes! Crayfish! Cheese balls! Pork rind! VELVEETA CHEESE!!!



Fishing With Kids

By HENRY H. GRAHAM

IN the first place let me say in all sincerity that I love kids. I like their bubbling enthusiasm and joyous exuberance. They help to keep me young in spirit although they can't, unfortunately, do anything about my chronological age. I've given them lessons in woodcraft, taken them hunting and tried to teach them how to shoot and to be careful with firearms. I've hiked and picnicked with them. But I believe I've enjoyed their company more on fishing trips than anywhere else.

Not that there haven't been some aggravating and even exasperating moments. It wasn't always one sweet, delightful adventure. Many times I've been more than annoyed by their behavior. This was to be expected. I used to aggravate my father and every other adult who took me fishing when I was little. In fact, I was something of a stinker. So I don't expect more modern youngsters to act like mature people should. However, I still look back on those streamside rambles with a pleasant nostalgia and a certain amount of pardonable pride because I believe I helped many youthful novitiates get the hang of casting

a lure, landing a fish and a few other aspects of the sport. At least I certainly tried hard enough.

One day at my woodland cabin a six-year-old boy we'll call Jimmy suddenly came up to me and whispered softly in my ear, "Let's go fishing." Just like that! Since a clear, sparkling stream ran right past our front door this presented no problem. I knew this child had never fished before; hence, we would have to start from scratch. Never for an instant, however, did I consider turning him down in spite of his extreme youth. It would have broken his tender heart.

I fixed up a suitable outfit for him. For awhile we stood on the grassy bank near the cabin and I gave him some elementary pointers on casting. Most of the time he either had the hook in the seat of his pants or the bushes behind us. Once the hook, baited with a juicy worm, smacked him squarely in the mouth. These vicissitudes failed to daunt him in the least. After ten or fifteen casts he managed to get the hook into the water a few feet from shore.

During this period I was careful not to laugh at him. I sought to exercise patience, kindness and tact as well as indulge in endless repetition of his first lesson. Children should never be laughed at or harshly criticized regardless of what they are doing or how clumsy they look. I vividly remembered my own exceedingly awkward movements as a budding fisherman when I was considerably older than Jimmy. Who was I to call the kettle black? He did all right for his age and lack of practice.

We soon went downstream. I let him fish the choicest pools first and showed him where to throw his hook. Once Jimmy made a whopping big cast which deposited the hook near the top of a small pine tree. Walking back to the cabin, I obtained a rake and managed to free it.

After tossing into several holes without catching anything Jimmy looked at me a bit sheepishly and said, "Why don't you take my rod and fish with it? If you get one on I'll try to land it. I can't get a bite myself. I want you to use my outfit, not yours. Then it'll be more like I really caught it, won't it?"

He was very cute, sweet and charming about it all. The little rascal had everything neatly figured out.

"You really mean it?" I asked.

"Sure do," he answered manfully. "If I bring in anything we won't tell anybody you hooked it, will we?" The little schemer!

"We certainly won't," I assured him. "It'll be all yours."

Pretty soon I managed to latch onto one. I immediately handed the rod to Jimmy whose eyes bulged widely and sparkled like diamonds as he begun to play the trout.

"Keep the line tight!" I urged him. "Don't let him get tangled up in that big root over there."

Before long the line went limp. "Aw, he got away!" wailed Jimmy, cruel disappointment showing in his wind-reddened face. "What did I do wrong?"

"Maybe nothing," I replied. "Even the best fishermen don't land every trout they hook. Everybody loses them sometimes. Don't worry about it. You'll soon have another one on, I'll bet." I strongly believe in encouraging youngsters under such circumstances instead of censuring them. It pays.

There were big tears in Jimmy's eyes and his lip quivered. But he soon pulled himself together, kept the rod himself and went on casting if you could stretch a point and call it that.

Pretty soon he hooked one. No doubt his excited screams could have been heard for half a mile. He jumped wildly up and down in frenzied delight. I have seen some adult novice anglers do the same thing.

"I've got a whopper on!" he yelled. "Must be at least a five pounder."

"Reel him in!" I directed. "Remember not to give him any slack if you can prevent it."

Back and forth across the pool raced the quarry, now and then leaping gracefully into the air, but he was apparently well hooked and Jimmy finally brought him close to shore. I handed him the net. When he slipped it under the squirming eleven inch beauty with his tiny hands he was probably the proudest and happiest little boy in that part of the country and wouldn't have traded places with anyone. He grinned from ear to ear and it did my heart good to see how overjoyed he was in his hour of triumph. He held the trout directly in front of him for admiration at close range. That night he probably took it to bed with him.

Years afterward Jimmy said to me, "You know, that was the most wonderful fish I've ever caught. I've never forgotten it. While I've taken many since then that were far bigger and fought harder I've never experienced a thrill like the first one gave me." Isn't it true with all of us?

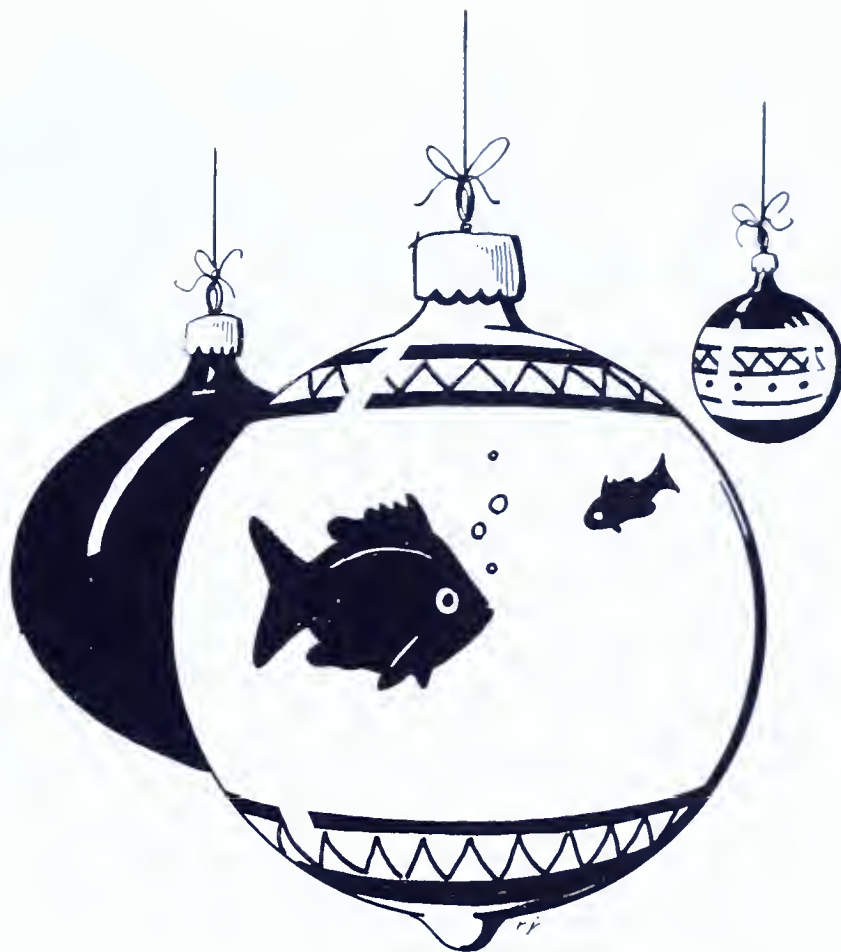
Dusk was beginning to settle over the vast uplands as we rounded the next bend in the creek. Long shadows streaked the shimmering water. An owl hooted among the trees. From a distance came a cry that might have emanated from the throat of a cougar.

"Let's go home," Jimmy suggested with a shudder as an expression of fear stole over his face. "I'm scared. It'll soon be dark and I don't know the way back." Perhaps he thought I didn't, either. Anyway, he was no longer a fisherman; he was just a frightened little boy who had landed his first fish! It was a red letter day in his young life.

On the return trip he smiled and said, "Let's go fishing again tomorrow." We did. This time he caught two nice trout instead of one—both without any help from me. He was already catching on.

One summer I went fishing several times with a chubby eight-year-old boy who was exceedingly awkward. He never seemed to look where he was going and fell over nearly everything. I was afraid he would eventually destroy himself. His lack of even moderate dexterity amazed me.

This lad was very docile and good natured when we started out and listened to what I told him. But after catching a couple without assistance it was a different story. I couldn't tell him anything. He knew all the an-



swers already and seemed utterly oblivious of my presence.

The crowning event of the trip came when he disobeyed me by wading boldly into quite a deep, swift pool and promptly fell down. The current carried him away. In his fear and surprise he let go of the rod. I plunged into the icy stream and succeeded in getting hold of him. The rod was also salvaged. The boy's teeth chattered as he remarked, "You were right. That place was too deep for me. I couldn't do much against the awful current."

Actually there was no danger of his drowning as the brook was very small. He changed clothes at his camp, which was nearby. After this chilling experience he was somewhat more tractable, occasionally heeding my suggestions. Once or twice, however, he growled, "You fish your way and I'll fish mine." I merely grinned for I never hold a grudge against a child. But he wasn't one of my favorite pupils—at least at the start.

He felt blue and discouraged over catching only two. Half an hour before we quit for the day he admitted to me that he was far from an expert.

"Maybe you'd better give me some more coaching," he suggested. "I don't seem to have much luck. Guess I'm not smart enough to catch a lot of fish."

He proved to be an apt pupil during the ensuing days, and after awhile had a good catch nearly every time he went out.

On another occasion I took under my wing, at his suggestion, a seven year old. Let's call him Sam. No two kids are exactly alike in temperament or fishing adaptability and this boy just couldn't seem to get the hang of it. He was slower than most. Furthermore, he had a fiery temper. When he got snagged he invariably yanked with

all his might in an effort to get loose instead of gently trying to work the hook free as experienced anglers do. I spent most of my time putting new hooks and leaders on for him. Finally, temporarily irritated, I snapped, "You may as well learn to do this yourself. You've got to learn sometime if you're going to be a fisherman."

Shortly afterward Sam dropped his rod carelessly at the base of a rock on which he stood while gazing at an airplane droning overhead. Presently he fell off. There was a sharp crack. He had put all of his weight on the first joint of the rod, breaking it squarely in two.

"I got it for Christmas," he sobbed, after surveying the damage. "It was the most beautiful pole I've ever seen. Now look at it. I'm never going to fish again." He just sat on the creek bank and sulked.

I hardly knew what to say. I could readily understand his overwhelming sorrow. Finally, I suggested that we go to my cabin, get one of my rods and he could continue fishing. I was merely a spectator that day, having no rod with me. I sympathized with him over the broken rod, or pole as he always called it.

Glaring rather savagely at me, he cracked, "I won't catch anything with yours. If I can't fish with my own pole I won't go."

"Suit yourself," I said. We walked to the cabin in utter silence. But children's wounds heal quickly, and by the time we arrived he was smiling.

"Let's go upstream this time," he proposed.

Before we could start, however, several boys of Sam's age came around and he went off with them to play ball. The next morning he was back at my place raring to go fishing again. This time he had his mother's rod.

Sam blossomed into one of the best fishermen in the state. Little by little he mastered the art. But like all kids he had his difficulties in the beginning.

Some of the youngsters I've fished with have perhaps shortened my life with their tantrums, their unwillingness to listen to reason, their awkwardness and their failure to cooperate. But I still adored them all except for brief spells

of impatience. Whenever I became particularly exasperated, figuring some of them would never learn how to fish or even try very hard, and, smarting under their occasional impertinence, I humbly recalled the hectic experiences of my own novice days, and immediately forgave them. We all had to learn sometime. I gave several people a bad time myself during this period. The realization of this fact made me more understanding with young fishermen than I would otherwise have been.

I hope I shall always enjoy the companionship of small fry along a stream or lake. If you ever go in for this sort of thing I'll promise you there will rarely be a dull moment. You may have a lot of gray hair when it's over, but you will be rewarded by the great satisfaction of starting a boy on his career as a fisherman. I think you will find this well worth while.

Some youngsters experience difficulty in concentrating on fishing, especially at the start. They find themselves so intrigued by the birds, animals, flowers, trees and everything else in the glorious realm of nature that they do not at times pay much attention to their piscatorial efforts. This is readily understandable. It is nice to know that they love the plant and animal life of the great outdoors. It is a good sign. If they really like to fish they will be able to take nature in stride. As they grow older they will be able to fish and still enjoy the flora and fauna along the route. This will all come about in due time.

Some children one takes fishing are more advanced for their age than others. They are better developed physically and mentally. Some are braver, more attentive and have more enthusiasm. But they all have their good points.

The same strategy cannot be used successfully with all of them. Some respond favorably to a pat on the back; others are stimulated by a mild rebuke. An adult who accompanies them should be something of an amateur child psychologist and never be surprised at anything that happens. He should handle each case individually and not use the same approach for all.





"A Keystone Carol"

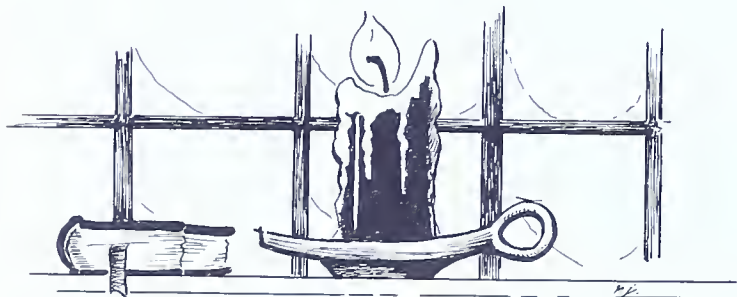
By **BOB CAVANAGH**
and
A. I. "PAL" ALEXANDER

'Twas the night before Christmas when all through the
house
Not a creature was stirring, not even a mouse,
I cut up some cheese and set traps one by one,
I wanted some mouse fur for dubbing on duns.
The youngsters were all snuggled deep in their beds,
While visions of sunfish swam in their heads.
And Mom with her book and I at my vise,
Had just added scotch to glasses of ice.
When back in the yard there arose such a clatter,
I sprang from my bench to see what was the matter.
I ran from the room and jammed on my hat,
And was out by the barn in just ten seconds flat.
Behind the old barn was a rather odd scene,
'Twas the type of a picture you see in a dream.
For I suddenly saw a broad sparkling stream
With hemlock and fir—majestic—serene!
A group of old friends were at one of the pools,
They were setting up field kits and using their tools.
I saw a new tier with fingers quite quick
And I knew all at once that his name was St. Nick.
He was dressed rather odd and stood out from the rest,
He had on red waders and a red fishing vest.
A battered old hat was pushed back on his head,
Like his waders and vest, a fluorescent red.
He let out a roar and cried, "Gather 'round Boys,
I've got some new things you can add to your toys.
Here's a fly rod for Chauncy to use come morn,
And some new things to make for a Shiner named Don.
Here's a pattern for Joe, a camera for Ed,
And a new fishing cap for George Forrest's gray head.

Now there are presents for all, so get into line,
Let's distribute them fast while we still have some time.
As you all know I'm going to be busy tonight,
But here's one gift to suit all you readers just right.
I've saved it till last—it's a fisherman's dream,
You all get to fish Santa's own private stream.
But here I must tell you, this water is sweet,
You will each catch the fish that's your own private meat.
There are salmon and rainbows, magnificent fighters,
For you salt water fans, there are bonefish and stripers.
So take up your tackle and all choose your pools,
And fish all you want, on this stream we've no rules."
Then so saying this, he picked up his rod,
And waving his hand—down the river he trod.
I followed him down—I felt like a sneak,
But to watch Santa fish, well, I just had to peek.
He selected a pool and then went right to town,
And cast out a dry fly that settled like down.
Then quick as a flash, an arm-breaking strike,
He set the hook deep and prepared for the fight.
The salmon went crazy and made a long run,
Then burst from the stream, a real tail-walking one!
But Santa he fought him right down to the spanier,
I've got to admit, old St. Nick was some angler.
Then admiring his catch, he slipped out the hook,
And placed the big salmon right back in the brook.
Then laying a finger aside of his nose,
His waders transformed into Christmasy clothes.
He jumped in his sleigh, to his team gave a whistle,
And away they all flew, like the down of a thistle.
But I heard him cry out, as they drove out of sight,
"Merry Christmas to all, and to all—lines tight!"

"Walton's Favorite Flie"

By DON SHINER



"Take a May-flie or Ant-flie, sink him with a little lead to the bottom near to the Piles or Posts of a Bridg, or near to any posts of a Weire, I mean any deep place where fish lie quietly, and then pull your flie up very leisurely, and usually a fish will follow your bait to the very top of the water and gaze on it there, and run at it, and take it lest the flie should flie away from him."

EXCEPT for several words of obsolete spelling, the above quotation could very well have appeared in some fishing treatise of this current century. Instead, it is from Walton's *Compleat Angler*, published in 1678 in England, and serves to illustrate very well what Sir Izaak thought of the wondrous wet fly.

It is almost inconceivable that a single trout lure should survive the ages, and nearly 300 years later, remain one of the best flies of our day. Most troutmen agree, even in this age of rockets, space exploration and color television, few lures can match the little wet fly's ability to creel trout in the streams of Pennsylvania. And it is questionable whether a trout lure will ever be invented that will come within viewing range of the high mark Walton's wet fly has established in trout appeal.

The reasons for this fly's great appeal to trout down through the ages are not mysterious when the questioning angler focuses one eye on the feathers, the other on an entomology text book. Facts are, the wet fly imitates the numerous aquatic insects that are found beneath rocks and patches of moss in the riffly portions of trout streams. The speckled finsters spend hours daily grubbing the gravel for these creatures.

Consider too the many landborne insects which are blown by the wind into the stream. These struggling bugs swirl with the currents and eventually disappear between the husky jaws of feeding trout. The numerous millers, deer flies, spiders, bees and dozens of others round out the aquatic menu. The little wet fly is unsurpassed in its ability to portray this food. And then consider too this lure's ability to create an illusion of a tiny minnow or some other flashing, fleeting and appealing object which excites trout. Even the coldest entomologist's calculations would include these among the many reasons for the wet fly's ageless popularity with trout.

Of course, how the angler employs this little fly on the stream contributes much to the success or failure of creeling trout. On some occasions, the wet fly must be moved erratically across the stream similar to the technique described by Walton. An aquatic insect does this when it bids adieu to its watery habitat and reaches for life amidst the air waves.

Tight lines may also be had by adding a small amount of lead to the leader to permit the fly to roll along the pebbly bottom much as a nymph would do when it has lost its footing on a slippery, diatom covered rock in the current. On other occasions, it is necessary to let the wet fly drift, with the angler imparting no motion to it aside from that it receives as the currents swirl it from one pocket to another. With patience and persistence, every modern angler can experience the timeless thrill that surrounds wet fly fishing for trout.

Only one addition can make this pinnacle more meaningful. That is achieved when the wet fly, used to creel trout, is tied by the fisherman himself. Walton tied his own flies and knew of this deepening streamside experience. You can also. Just as fishing a wet fly successfully is no Herculean task, tying wet flies yourself from a thimbleful of feathers, is no effort. Thus to stimulate more readers toward joining the ranks of the fly-tying fishermen, the procedure for tying a wet fly is illustrated here. The job is quite simple. Little significant change has been made in the wet fly's appearance since Walton's day.

We will assume that you already have a fly tying kit, or have planned to purchase one in the future. If so, do it now, this month. The kit should contain a pair of finely pointed, sharp scissors, and a vise for holding the hook firmly in position. Materials should include quill feathers, rooster neck feathers, wool yarn or tanned patches of fur, tinsel, lacquer and an assortment of small trout hooks. These are the ingredients of the little wet fly.

Relax beside a table and fix the vise at a good working level, and adjust a desk lamp so there is adequate light to prevent eye strain. Select a size 12 hook and clamp this in the jaws of the vise. Tie a piece of waxed thread to the shank of the hook as the initial step.

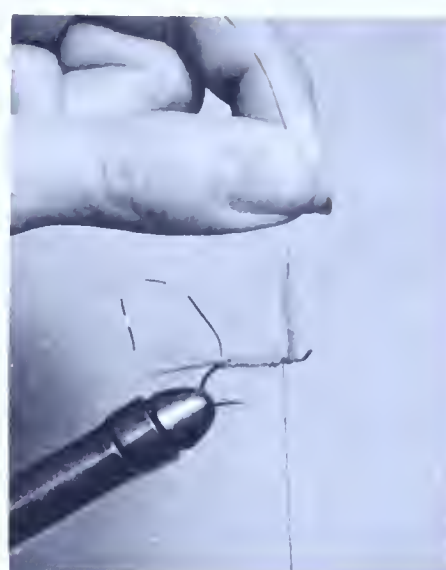
The first phase in tying this fly involves the tail assembly.



FIRST STEP. Pull several wisps from a hackle feather and tie to hook the tail of the fly.



SECOND STEP. Tie in wool yarn and tinsel for the body.



WRAP the wool yarn tightly around the shank. Then . . .



WRAP the tinsel spirally around the body material to form a glistening, segmented abdomen.



THIRD STEP. Cut identical sections from a matched pair of duck quill feathers, and tie these in for wings.



CUT surplus ends of wing material to prevent obstructing eye of hook.



FOURTH STEP. Pull more wisps from a hackle feather. Tie these beneath wings to form the "hackle."



DROP lacquer on the thread winding to prevent fly from unraveling. The wet fly is now finished. That's simple!

Cut four or five wisps from a long, slender feather that grew on the neck of a barnyard rooster. Hold the fibers near the bend of the hook with the thumb and forefinger of one hand and wrap the waxed thread around the wisps and the hook shank. Bind this material securely in place.

Building the body is the next step. Use the waxed thread to tie in a short piece of wool yarn and a piece of tinsel. If yarn or floss is not available in the color you wish, make this material by pulling bunches of fur from a tanned skin. Place this fur on the knee of your trousers and with the palm of your hand, roll a waxed thread over the fur. The fur will "spin" nicely around the thread.

Carefully wind the yarn around the shank, covering the hook from the bend to the eye. Knot the waxed thread around the body material to hold this firmly in place. Now

wind the tinsel spirally over the body material to form a glistening, segmented abdomen.

The wings are next fitted in place. For this appendage, cut identical sections from a matched pair of duck quill feathers. Hold these just to the rear of the hook eye, and wind the waxed thread over the ends of these feathers. Cut the surplus ends to prevent obstructing the eye of the hook.

The fourth and last operation involves seating the hackles in place. For these, more wisps are pulled from a rooster's neck feather. Hold these on the underside of the hook, beneath the wings, and wind the waxed thread over the fibers. Add a drop of lacquer to the knotted thread and the wet fly is complete, ready to be cast into the trout stream.



MATERIAL FOR spawning shelter is unloaded from a truck and then floated and taken in a boat along the shore to be erected away from the public docking area and in a spot where there's some protection from the cold fall winds.



UNLOADING material for spawning shelter along the shore of Upper Woods pond.

Each year as summer fades into fall and the forests light up with color before a blanket of white settles over the ground, a small group of Pennsylvania Fish Commission personnel set up shop on Upper Woods pond in Wayne County.

Purpose of the annual month-long operation is the perpetuation of the Kokanee Salmon, a fish—that like the leaves—turns a brilliant color in the fall and then dies.

In the fall as it nears and enters its spawning season it becomes a nearly indescribable hue of red—a color one would only expect to find in nature.

The Kokanee, a native of the Pacific northwest, was first stocked in Upper Woods pond in 1959. At the same time and at later dates it was stocked in other lakes in the state but it has thrived only at the Wayne County location.

Noted for its savage spirit as a fighter and savory flavor on the table, it provides many fishermen from northeast Pennsylvania—as well as those from nearby sections of New York and New Jersey—with lots of good fishing and eating.

Although all Kokanee turn a brilliant red in the fall it isn't until its third or fourth year that the fish matures and spawns, after which it dies. Since there is no natural spawning area at the lake it is necessary to artificially spawn them. Working out of Pleasant Mount Hatchery, a few miles from Upper Woods pond, a crew of two or three spend several hours each day checking nets and spawning the "ripe" fish. They grow to between 12 and 15 inches.

Eggs are taken to Pleasant Mount where they are hatched and then released in the spring as fingerlings to quickly grow into more good—and colorful—fishing and eating for area anglers.

KOKANEE CAUGHT in trap nets are netted out and put in tubs for transportation back to the spawning shelter. Once there they are dumped into a partially submerged holding net to await hand spawning.



Changes Color In The Fall—

By TOM EGGLER

Staff Writer-Photographer

WAYNE COUNTY KOKANEE



LEFT—NETS are repaired before starting.



ABOVE—HOLDING net of Kokanee is dumped at spawning shelter.

RIGHT—TUBFULL of Kokanee ready for spawning.





Looking Ahead To

KINZUA

By TOM EGGLER

Staff Writer-Photographer

Before long the gates on the recently completed Kinzua Dam will be closed and water will fill the upstream valley until a lake of over 12,000 acres winds into nearby New York State.

The impoundment is expected to provide fishermen, as well as other recreationists, with a great new center for outdoor activities.

In a few more months Pennsylvania and New York state anglers will be fishing on one of the largest man-made lakes in the eastern United States.

Located on the Allegheny River 198 miles above Pittsburgh near Warren, the Allegheny River Dam and Reservoir will cover 12,050 acres and will back water up 27 miles at its normal pool depth, putting part of the lake in New York State.

The \$114,000,000 project, better known as the Kinzua Dam—for the town it submerges—has already attracted a lot of visitors to the area, not the least of which are fishermen.

(Continued on Page 18)

SETTING GILL NETS beneath the bridge that spans the Kinzua Creek near where it enters the Allegheny. In the boat are Don Gummo, fishery biologist, and Reginald Galvin, summer employee of the Bureau of Sports Fisheries. When filled the lake will leave only a small part of the piers showing.



CHECKING SAMPLE netting of largemouth bass stocked in the lake last spring are Ed Cooper, professor of Zoology at The Pennsylvania State University, Joe Boccardy, fishery biologist and project leader for the Bureau of Sports Fisheries, and Don Gummo, fishery biologist for the Bureau of Sports Fisheries. A million of the bass were stocked as fingerlings. Another million will be stocked this spring with the possibility of still another million being stocked in 1968.

PAYING OUT net along shore while taking samples of fish populations when the lake covered some 2400 acres last summer. When filled lake will near tree line along far shore in background.

BRINGING NET in along shore near what will be one of several launching areas.



KINZUA

(Continued from Page 16)

So far only limited facilities have been available.

However by next summer everything should be in operating order—from camping areas to the swimmer's beach as well as several boat launching areas.

Halsey Harmon, chief resident engineer, says he expects to have the lake filled to the 12,050 acre mark early in May. During the past year the pool has been at a 2400 surface acre level but a build-up of trash on sluice gates made it necessary to drop the level this fall to facilitate cleaning.

Major hold up in filling the lake above the 2400 acre level up to this point has been the construction of intakes for hydro-electric facilities which are being added, however work on the intakes should be completed soon. Filling of the lake should begin this winter.

Once filled the lake should provide fishermen with a variety of top quality sport. A million largemouth bass fingerlings stocked last spring by the Department of the Interior's Fish and Wildlife Service were nearing legal size late in the summer.

Sample nettings made by a team of Fish and Wildlife Service biologists headed by project leader Joe Boccardy indicated that—other than the largemouth bass and a large native supply of carp—muskies, walleye, yellow perch, smallmouth bass, and brown trout abound.

Boccardy said last month that plans for the coming spring include stocking another million largemouth bass.

At the moment no other species are scheduled for stocking as native species in the river seem to be sufficient to produce populations of sufficient numbers for the lake.

KINZUA VISITORS stand at railing near dam looking upstream toward location of the town of Kinzua, the main street of which will be under 100 feet of water when the lake is filled. The word Kinzua, an Indian word, is defined as meaning "heap big fish" or "great fish." The name will probably describe the kind of fishing anglers can expect to find there.



YOUNG ANGLER fishes along shore of the 2400 acre pool. When filled to normal level there will be 91 miles of shore line.



KEEPING HATCHERY MEN INFORMED

FISH CULTURE SCHOOL

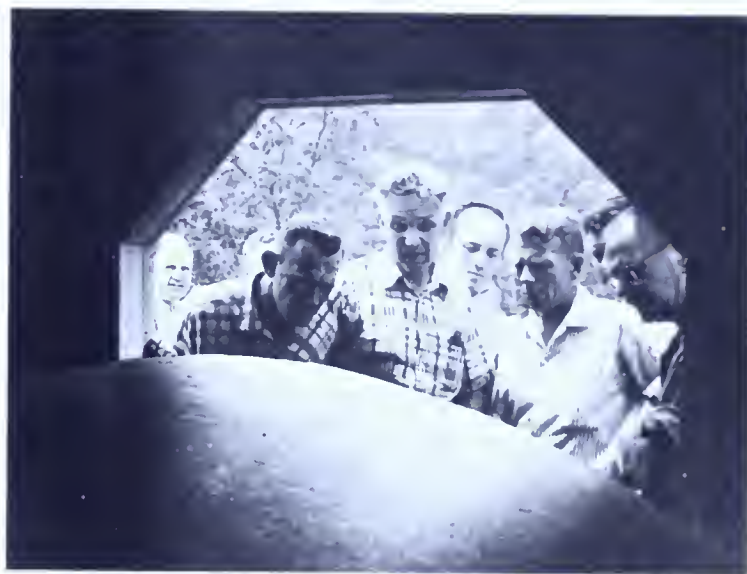
Beginning in January, fish culturists and hatchery superintendents from the Pennsylvania Fish Commission's eight hatcheries will begin their second annual instruction session at Benner Springs Research Station near Bellefonte.

Initiated last year, the school is designed to help keep hatchery personnel current with new and experimental methods of fish management. The course is administered in six two-week sessions stretching throughout the year.



ABOVE—INSPECTING DISPLAYS, three visitors to the class have exhibits explained to them by Keen Buss, director of research at Benner Springs. From left to right are: Ray Corning, fishery biologist, Va. Commission of Game and Inland Fisheries; Lynn Hutchens, Division of Hatcheries, Bureau of Sports Fisheries and Wildlife; and Bob Martin, chief of Fish Division, Virginia Commission of Game and Inland Fisheries. Both Hutchens and Martin spoke to the classes.

RIGHT—ATTENDING CLASS this summer at Benner Springs for two weeks were (from left to right) Ted Dingle, fish culturist, Huntsdale; Shyrl Hood, superintendent, Linesville; Robert Brown, cooperative nursery coordinator, Bellefonte; LeRoy Sorenson, superintendent, Cory; Mel Sorenson, acting superintendent, Tionesta; Del Graff, fishery biologist at Benner Springs and one of the lecturers; William Kennedy, fish culturist, Bellefonte; Paul R. Byers, Jr., fish culturist, Bellefonte; Willard Fultz, fish culturist, Bellefonte; John Bair, fish culturist, Benner Springs; and George Magargel, superintendent, Reynoldsdale.



INSPECTING INCINERATOR, members of this year's summer class saw how dead fish are easily disposed of at the Benner Springs research station.

Classes include lectures by well-known authorities in the field as well as field trips to facilities exhibiting methods being taught.

Keen Buss, director of research at Benner Springs, started the program last year. In commenting on the school, Buss said he was "pleased with the reaction of those attending" and that he hoped to expand its scope even more in future sessions."

Lectures last year included anatomy and physiology of trout, hatchery construction and operation as well as the spawning, care, rearing, and nutrition of trout. Fish diseases and parasites and other related subjects were also discussed.

This year's program is expected to include more lecturers from other states who are specialists in their fields as well as researchers located at Benner Springs.

Following the January and February sessions other classes will be held in April.

Approximately 12 will attend the classes this year.





ABOVE—LIGHTWEIGHT CONSTRUCTION makes for easy handling and retrieving. Some use tubing for pontoons; others are made of wood. Generally construction is simple. Standard model engines and fuels provide the power necessary to pull the average fishing line out several hundred feet.

LEFT—OUTWARD BOUND with the angler's lure and line in tow! In a few minutes' time it will reach its destination and the angler will yank on the control line, releasing the lure and shutting the engine off. It is then dragged back to shore with the control line.

Can't Cast Far Enough?

Northwesterners Have Answer

By ROBERT BIELO

**Executive Director
Pennsylvania Fish Commission**



ALL ALONG THE SHORE fishermen use the little outfits. One pole handles the control line while another is used for the fishing line.

A recent trip to the Pacific Northwest in quest of information about the passage of shad over high dams, turned up an interesting side light on the ingeniousness of fishermen.

While looking over the fish passage facilities at Bonneville Dam on the Northwest's mightiest stream, the Columbia River, the high pitched whine of model airplane engines constantly cut across our conversation. Finally my curiosity reached a point where I had to ask what all the racket was about. Our congenial and knowledgeable host, Ivan Donaldson, biologist, U. S. Army Engineers, wryly remarked that it was merely sturgeon fishermen. Eventually our inspection tour brought us to a vantage point from where we could see several fishermen along the Washington bank of the Columbia, below the dam. One fisherman appeared to be snagged as he was repeatedly heaving on his heavy

(Continued on Page 21)

PENNSYLVANIA ANGLER



Notes FROM THE STREAMS

(Continued from Page 20)

salt water rod. A second look aimed far out into the river toward the sharp whine of a tiny engine, brought our attention to a small floating object apparently making its way across the river. It took a few seconds to realize the frantic fisherman and the boat-like object were somehow connected even though several hundred feet of swift flowing water lay between them. With our curiosity fully aroused, we hiked around the end of the dam and climbed down the steep bank to join the fishermen.

The scene resembled one you might encounter anywhere along our own rivers—fishermen comfortably lounging in the sun, tackle boxes hanging open, thermos jugs handy, lunch baskets in the shade of large rocks, bait cans and odds and ends of other standard gear scattered around. But near each fisherman was an odd looking pontoon arrangement with a model airplane engine mounted 12" to 16" above the pontoons.

Our host introduced us to several of the fishermen as "easterners" who were just plain curious about their fishing rigs. One fellow promptly volunteered to let us look over his outfit. Quite simply it consisted of a tiny airplane engine—a Fox "59" I believe—mounted over two sturdy metal pontoons 30" in length. A small plastic bottle was strapped to the engine mount and by gravity flow fed fuel to the engine. A heavy nylon line, about 60-70 lb. test, led from a large salt water reel out through the guides of a heavy surf rod to a point of connection on the pontoons. The line then led to a rather ingenious hook up which when jerked sharply released a mouse trap spring that snapped on the rubber fuel line, shutting off the fuel supply.

A second rod, reel with its line attached to the other side of the pontoons turned out to be the baited fishing line. It too could be released and the baited hook dropped into the water by an easy tug from the shore. By this system shore bound anglers could quickly and accurately send their baited hooks several hundred feet out to the channel where the big sturgeon were feeding. After the bait was dropped the pontoon craft was retrieved with the number one rod. Proof that the system works was evident in the form of a lunker sturgeon (5'-6') that was caught and released while we were watching. Just before we moved on another fish was hooked but succeeded in getting his shovel nose firmly anchored under a rock from where it couldn't be budged. The happy angler calmly sat down and lit his pipe and prepared to wait out his catch. As I was jotting this story down for the ANGLER I wonder how such an outfit would work here on our wide rivers or on a big lake. Crazy idea—well maybe but if it catches fish—who cares.

■ While patrolling the Driftwood Branch of the Sinnema-honing Creek, I found a large bass fly in a most unusual way. I drove from a streamside dug road and when driving down the highway it felt as though I had a soft tire on the rear of my car. I got out to check, only to find a large bass fly stuck into the tire. It was not a soft tire after all, but what an easy way to find fishing tackle.—**District Warden STANLEY G. HASTINGS** (Cameron).

■ While patrolling Butler Water Dams I ran into a fisherman who told me about his experience on Kinzua Creek. He was fishing a spinner and had a strike from underneath a large rock. The trout, which was about 10 inches long, then went back underneath the rock. Thinking he was snagged, he began pulling and much to his surprise a large 19-inch trout came shooting out with the spinner in his mouth.—**District Warden EUGENE SCOBEL** (Butler).

■ A motorboat came zooming along side our patrol boat on Pymatuning Lake with a fellow holding a cloth around his fingers. He was anxious to locate the nearest doctor for treatment. We offered some bandages and antiseptic, but this was not what he was worried about. He explained that he had been bitten and was worried about rabies. I asked if he was able to get what had bitten him and he held up a seven pound walleye. We explained that fish cannot carry rabies and he was quite relieved.—**District Warden THOMAS L. CLARK** (Crawford).

■ I have seen many ingenious devices which fishermen invent to make their sport a little easier, but the device that surpasses them all was one I saw recently at North Park Lake. The inventive fisherman had a bicycle siren bolted to his rod holder with a switch connected to the siren. A heavy line ran from the switch lever to a bobber which was attached to his line ahead of the tip guide. Whenever a fish hit and tightened the line, the switch closed, the siren sounded off, and everyone within hearing distance started looking for a police car.—**District Warden PAUL R. SOWERS** (Allegheny-Beaver).

■ Great numbers of young shad were schooled up ready for downstream migration early this fall. They have been sighted in most eddies of the river.—**District Warden HARLAND F. REYNOLDS** (Wayne).

■ While attending the Fish Commission display at the Scott Township Fair, I learned that the cause of public

relations can sometimes best be served by keeping one's mouth shut. An elderly gentleman had stopped at the display with his two grandsons and was identifying the fish in the cases for them. He was telling them at great lengths about the largemouth bass, while pointing to the sucker. All at once he caught sight of the sign labeling the fish and as he saw that I was watching, became very embarrassed. I was about to correct his mistake, but thought better of it. He left, but returned in a short while without the boys and thanked me for not correcting him in front of his grandsons. A little later he returned with the two boys and corrected the matter of the largemouth and sucker himself.—**District Warden CHARLES A. HERBSTER** (Lackawanna-S. E. Susquehanna).

■ The Mifflin County Soil and Water Conservation District held its Tenth Annual banquet at the McVeytown Presbyterian Church. Since 1956, this has been one of the most active districts in the State and the work they have accomplished is immeasurable. The Pennsylvania Fish Commission has actively worked with and supported the district and on its 10th Anniversary the District presented to the Commission a plaque of appreciation.—**District Warden RICHARD OWENS** (Mifflin-Juniata).

■ The water supply for Cumberland, Maryland is located in Bedford County—Koon Lake and Gordon Lake. My acquaintance with these lakes covers a period of 30 years and during that period of time littering has been quite a problem. At last I feel that most people have begun to respect the privilege that the Water Company extends and it is a good example of how a water supply reservoir can also be used for recreation by thousands of people. This fall there was a day set aside, called Appreciation Day, when fishermen, hunters and anyone interested gave Koon and Gordon Lakes their fall house cleaning. These persons walked along the shore lines, gathered up all trash and placed it in containers supplied by the Pennsylvania Fish Commission.—**District Warden WILLIAM E. McILNAY** (Bedford).

■ Some of the finest smallmouth bass fishing in eastern Pennsylvania can be found in the Delaware River between Easton and the Delaware Water Gap, but very few fishermen are taking advantage of it. Several Pennsylvania Angler Citation smallmouths were taken during September and October and the influx of warm water from power plants at Portland and Martins Creek gives promise that fishing will continue to be excellent during the winter months. Live baits such as nitecrawlers, hellgrammites, crayfish and minnows or artificials that imitate these are highly recommended for this period.—**District Warden STANLEY PAULAKOVICH** (Lehigh-Northampton).

■ A cottage owner along Raystown Dam hooked a very large musky in front of his place while fishing for bass. He was using light spinning tackle and after playing the fish for quite a while, realized that he had left his net at the cottage. He called and called for his wife, but she didn't answer. He allowed the fish to run out into the deep water, set the rod down and piled several big stones on

the handle, then beat it up to the cottage for the net.

Returning to the scene with the net and a very excited wife, he again played the musky and all went well until he tried to get the too large fish into the too small net. The musky thrashed, the wife screamed, the line broke. At this point the fisherman told me he felt like throwing the whole business in the Dam—including his wife.—**District Warden JAMES T. VALENTINE** (Huntingdon-Fulton).

■ Fish salvage operations were performed on the farm pond at the residence of Mr. and Mrs. Albert Issacs of Dalton, R. D. The owners wished to drain the pond and rebuild it and they asked the Fish Commission to take out the fish and restock them elsewhere. About 3,200 largemouth bass, perch and bluegills were harvested and restocked in Chapman and Belmont Lakes. Taking part in this operation were Supervisor Fleeger, Assistant Supervisor Lazusky, wardens Joseph Bartley, Harland Reynolds, and myself.—**District Warden CHARLES A. HERBSTER** (Lackawanna-Susquehanna).

■ October was a good month for musky fishing in Hills Creek Lake. Three fish over 40 inches long were taken. The largest was 45 inches and weighed twenty-five and three-fourth pounds.—**District Warden RAYMOND HOOVER** (Tioga).

■ This fall while the hatchery personnel were taking Kokanee in trap nets at Upper Woods Pond to collect eggs, some very fine trout were trapped and released. I measured a pair of brown trout in the thirty-inch class that weighed eight to twelve pounds. They also took a thirty-six inch rainbow believed to weigh over twenty pounds. One lake trout was taken that weighed between four and five pounds. Upper Woods Pond was reclaimed by the Fish Commission in 1956, and then stocked with rainbow trout and Kokanee Salmon.—**District Warden HARLAND F. REYNOLDS** (Wayne).

■ The sportsmen of Lycoming County have two new experimental projects at the present time. The Consolidated Sportsmen's Club has installed an Auto-Limer at Carsons Mine on English Run. The Susquehanna Chapter of Trout Unlimited has purchased trout eggs and put them in Vibert boxes in Slate Run and Cedar Run.—**District Warden JAMES H. LAUER** (Lycoming).

■ While Special Warden Miles Knepper and I were patrolling the Youghiogheny Reservoir, we saw a small group of people gathered on a mooring dock. We went in to see if we could be of any help and found that an inboard had sunk and the only thing keeping it from going to the bottom was the tie up lines. The man had borrowed a portable pump from a local fire company and was attempting to pump out his boat. I told him the pump was not large enough since the entire surface of the 3,000 acre lake was a foot over the top of his boat. He came right back at me saying the pump would pump 500 gallons a minute. I tried to explain that the entire lake would have to be pumped down a foot in order to get the water out of the boat. However, he went right ahead, but with very little



success. Finally he gave up and went to more reasonable means by pulling a pontoon boat over the top of his boat, and lifting it to the surface. He then pumped the water from his boat with much more success.—**District Warden JAMES ROBERT BEATTY, JR.** (Fayette).

■ Is all the hard work required to build good stream improvement devices worth it? Well, I'll wager the members of the Donegal Fish and Conservation Association would say, yes. We recently electro-shocked the Donegal fly fishing only area to see if the stream improvement devices would hold trout. In approximately two-fifths of a mile, we found 24 beautiful lunkers. During the season the Commission stocked 800 trout in this stream and the club stocked approximately 100. With the heavy fishing pressure this stream receives, try and convince the people of this hard working organization that there is a better way to have good fishing, good fish habitat and stream holding ability than just plain ordinary hard work building good stream improvement devices.—**District Warden SAMUEL HALL** (Lancaster-Lebanon).

■ Recently I talked with Mr. James Hetrick of St. Marys, concerning the walleye fishing on the Allegheny River. He told me that on one of his better fishing days on this stream, he caught nearly one hundred walleye, and he kept his legal limit of six, which ranged in size from 26½ to 29½ inches. The total weight of his six walleye was 47 pounds. This might sound like a fish story, but in Mr. Hetrick's case it's true. He won first place in the walleye division of the State Fishing Championship at Tidioute. Another one of Jim's accomplishments is catching a limit of three species of fish in the same day—trout, bass and walleye. One fellow remarked about Jim—"I saw him walking down the streets of St. Marys with a pair of hip boots on in the middle of January, with a tackle box in one hand and a fishing rod in the other, and I thought that he was either a nut or he knew what he was doing." In Jim's case he is a fishing nut and he knows what he is doing. A number of fishermen might want to know his secret. My observation is that he devotes half of his fishing time to studying the habits of the fish, the other half to making his studies pay off by catching them.—**District Warden BERNARD AMBROSE** (Elk).

■ While patrolling the Allegheny River in Forest County, I came upon a fisherman who was quite disgusted with fishing. He had been fishing the river for three days without success. I suggested he fish jigs or live bait at the head of deep pools, but he obviously did not think much of my

suggestion until a fisherman who was fishing in this manner some two hundred feet away, waded to shore with three nice walleye. The gentleman took my advice and within a few minutes landed a fifteen-inch smallmouth bass.—**District Warden JAMES F. DONAHUE** (Jefferson).

■ I came across a fisherman at Glade Run Lake about 9:00 in the morning who seemed very much relaxed. He was sitting under a large shade tree with his radio on and his lunch box and a few books beside him. When I returned at 6:00 that evening, I found the same fisherman under the same tree. I asked him how his luck was and he told me the rod had not moved, so there was no sense in him moving either. I think he stands a good chance of winning an award for the most relaxed fisherman.—**District Warden EUGENE SCOBEL** (Butler).

■ I noticed a large concentration of Cedar Waxwings on Lyman Run Lake and was watching them swoop down and catch bug life from the water, when I saw one pick up a fisherman's dry fly off the water. The fisherman had quite a time, but he finally landed a beautiful bird. Fortunately the bird was only slightly hooked and was released. When released he headed directly south and I don't think he stopped until he got there.—**District Warden KENNETH ALEY** (Potter).

■ Patrolman Richard White of the Franklin Police Department, told me of an interesting experience he had while fishing in French Creek near Franklin. He heard a slight noise in some nearby brush and a ringneck hen soon emerged. It walked towards him and perched on a rock near where he was sitting. It was very tame and he was able to pet it on the back several times. Officer White was eating an apple and thinking the bird might be hungry, he extended a piece of apple in his hand. The bird accepted the handout and pecked away. Officer White then called to Herbert Caul of Franklin, who was fishing nearby, and said, "I bet you don't know what is here with me." Caul replied, "I'll bet I do. That darn bird was pestering me a while ago." The bird was still perched on the rock when Patrolman White left for home after enjoying a successful fishing trip by catching a rock bass, a bass and two walleye.—**District Warden CLARENCE W. SHEARER** (Venango).





Dear Mr. Forrest:

As chairman of the Fish Committee of the Delaware County Field and Stream Association I have been very interested in stream improvement in recent years. Specifically I have made the erection of gabions my main project. Recently I visited area clubs who had installed gabions, notably West Chester Fish and Game Association and the Langhorne Rod and Gun Club.

After inspecting the installation of these gabions and studying the literature sent to me by the Maccaferri Co., of New York, I discovered a similarity between these wire baskets and empty milk crates. After contacting several area milk companies, Martin Century Farms, donated 200 milk crates to begin our project. The crates were bolted together in "V" shapes and filled with rocks. The photograph shows the first of three dams being constructed in Darby Creek. At this point the water level has been raised from six inches to nineteen inches. I would like to thank you again for the wealth of information you have made available to me and other sportsmen through the PENNSYLVANIA ANGLER.

Yours truly,

SAMUEL R. MASSARELLA

Mr. Paul R. Sowers
District Fish Warden
Oakmont, Pennsylvania

Dear Mr. Sowers:

It's always nice to send good news.

We are happy to tell you that the 1966 Allegheny County Fair and Western Pennsylvania Exposition was a huge success. The attendance was the best ever and the public said it was "the finest Fair they ever attended."

The success of the 29th Fair was all due to your help and interest. Thus, this good news was made possible by your kind support.

We thank you and we sincerely hope that you will help to make the 1967 County Fair an even bigger success.

Cordially,

/s/ Miss Betty Colosimo, Manager

In making repairs on your boat, rusty screws can be removed more easily if you heat the tip of the screwdriver before you start to unscrew them.

NEW FILM AVAILABLE

The Interstate Advisory Committee on the Susquehanna River Basin has produced and made available for public use an 18-minute documentary film based on the proposed Susquehanna River Basin Compact.

The film title is "A Horseshoe Nail." It is a 16 mm, sound and color production.

The film takes the viewer on a pictorial journey from the headwaters of the Susquehanna in south central New York, through Pennsylvania, up the tributaries, and on to the mouth of the river at the head of Chesapeake Bay, Maryland. Enroute, it outlines the problems of the watershed—primarily flood, drought and pollution—and tells how the compact would help provide the solutions.

In Pennsylvania, the film may be obtained for group showings from the following:

Dept. of Agriculture: Harrisburg, Evans City, Hollidaysburg, Linden, Hershey.

Dept. of Community Affairs: Harrisburg.

Dept. of Forests and Waters: Harrisburg, Emporium, Prospect, Schellsburg, Quakertown.

Dept. of Health: Harrisburg, Kingston, Williamsport, Meadville, Pittsburgh, Lewistown, West Reading.

Dept. of Internal Affairs: Harrisburg.

Dept. of Public Instruction: Harrisburg.

Historical and Museum Commission: Harrisburg.

Fish Commission: Harrisburg, Tionesta, Somerset, Honesdale, Annville.

Game Commission: Harrisburg, Franklin, Ligonier, Huntingdon, Dallas, Reading.

Regional Film Center, Free Library of Philadelphia.

Regional Film Library, Allegheny Region Branch, Pittsburgh.

Catholic School System: Harrisburg.

Pennsylvania Power and Light Co: Allentown.

MOBILIZE!

Want to spread the word in a hurry? Mobilize!

Or at least set up a mobilization chart so that in the event of an emergency members of your club or organization can be notified in a hurry.

That's what members of the Declo Anglers & Conservationists of Delaware County have done.

In their October newsletter active members of the club each received a mobilization chart. According to the newsletter the chart was "worked out in an effort to have a more effective turnout for the work details."

What it amounts to is that one member calls a couple other members with the message. These members in turn each call a couple other members who in turn each call a couple more.

In short order word has spread throughout the organization and needed action can be immediately taken if needed—be it work on one of the club's projects or a mass mailing of letters to a political representative.

Under the plan not one member gets stuck with contacting everyone—so long as everyone carries his, or her share of the load—and the job gets done in a hurry.



LARGE BOULDERS were used to hold this giant gabion in place on Dutch Fork Creek in Washington County. Pictured here are former John and Jim Moore—on whose ground three of the gabions were built—with Bert Euliano, fish warden for that area.

DUTCH FORK CREEK GABIONS

Four of these large gabions were built last year on Dutch Fork Creek in Washington County below the 91 acre Dutch Fork Lake.

Under the direction of Bert Euliano, fish warden for Washington and Greene Counties, the gabions were built by members of the Youth Forestry Camp at Raccoon State Park.

Built to stay in place with tons of giant boulders, the gabions are 30 inches high. Overall they stand nearly 36 inches.

Water backs up several hundred feet behind each, deepening the stream to provide more and better living conditions for the several species of fish in the watershed.

Additional improvements, in the form of more gabions and log deflectors, are planned for construction downstream from those that have been built.

U. S. MAP COSTS UP

The United States Geological Survey has increased the price of their topographic quadrangle maps to 50 cents per copy. Rising publication expenses partly accounted for the price increase, the first in nearly ten years.

These contour maps are extremely popular with sportsmen and may be obtained at many of the larger book stores in the state or by mail from the Geological Survey in Washington, D. C. 20242.

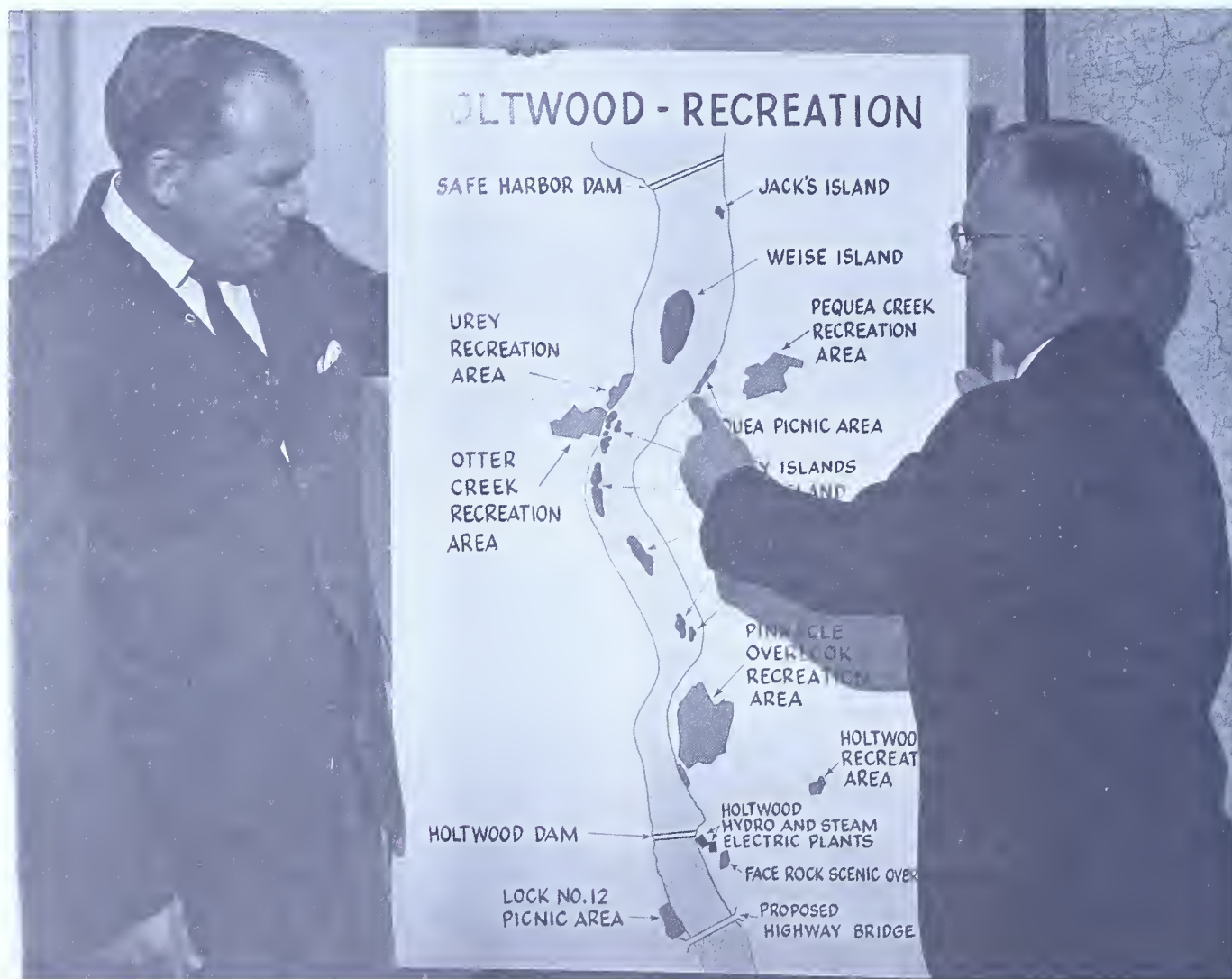
LAW ENFORCEMENT PERSONNEL of the Pennsylvania Fish Commission are mighty proud of the single log dam they constructed on Logon Branch in Centre County. From left to right are Lee Shortess, Miles Witt, Norman Sickles and Wolter Lozusky. The men had attended classes on stream improvement conducted by fishery biologist, Jack Miller of the Bennet Springs Research Station.



CALLING THE MEETING TO ORDER, John F. Laudadio, 1966 president, addresses delegates of the Pennsylvania Federation of Sportsmen's Clubs in Harrisburg. Ed Bolderston was chosen new president to succeed Mr. Laudadio.



Boating With Robert G. Miller



E. T. WILSON, coordinator—public recreation for the Pennsylvania Power & Light Co., on the right, explains the recreational improvement program in progress on the Susquehanna River's Lake Aldred area for the benefit of Edward T. Tharp, assistant executive director, Office of Watercraft Safety.

THIS past summer saw the start of some drastic changes on the lower Susquehanna River, changes which will greatly enhance the area for outdoor recreation whether it is pleasure boating, fishing, camping, or picnicking.

The improvements specifically affect the Lake Aldred area between the Holtwood and Safe Harbor dams. They were undertaken by the Pennsylvania Power and Light Co. as a means of providing recreational opportunities for several thousand persons rather than the few hundred who, in the past years, have been fortunate in selecting an island site early in the season and making use of that area from year to year with no fee attached.

This was strictly a first come, first served proposition

and those pleasure craft owners who arrived late found all the island sites taken. They could only, in recent years, take advantage of the picnic sites and launching area developed at Otter Creek, in York County.

Now things have changed. No longer will overnight camping be permitted on the islands but day campsites will be provided, each with picnic tables, fireplaces, sanitary facilities, and brand new floating docks which will be installed around the islands' shorelines, at Otter Creek and at new launching areas to be developed around the perimeter of the lake.

One of the primary reasons for the project is aimed at halting pollution. In the past, most overnight campsites

were equipped with primitive sanitary facilities, while some campers, fortunately the minority, allowed garbage and trash to accumulate and thus create unhealthy and unsightly conditions.

There are seven islands dotting the 56-year-old Lake Aldred and work is scheduled to begin after Labor Day on the Urey island group. The islands will first be vista trimmed, that is, brush and foliage will be cleared out up to a height of about five feet, picnic sites staked out, and other preparations made for placing the portable facilities, tables, fireplaces and toilets, by next spring. Because they are fairly close together, this group of islands will be connected with causeways.

Eventually, after the Urey group is developed, similar work will be done on Bair, Duncan Reed, and Hartman islands. The largest, Weise island, will be developed last.

This past summer was spent in improving the picnic areas along the Pequea Creek by including a ford across the stream, thus opening up the land on the opposite side for recreation. Portable toilet facilities were also added.

At the mouth of the Pequea Creek, where it flows into the Susquehanna River, a roadway was built under the Pennsylvania Railroad Co. span and a stretch of railroad company right-of-way, between the tracks and the river's edge, was improved. This meant clearing out the brush, building a roadway, installing fireplaces, picnic tables, swings, and other forms of entertainment for the youngsters.

On the opposite shore, in York County, Otter Creek has been expanded to include many more picnic tables and fireplaces, over 60 tent sites with some for camp trailers, a combination caretaker's cottage-store, plus the installation of electrical outlets at campsites, sanitary and laundry facilities, and running water.

The National Assn. of State Boating Law Administrators is preparing a "Safety Primer for Pleasure Boat Operators."

This new pamphlet contains five chapters: the first covering Motor Boat Numbering and Accident Reporting as required in the Federal statutes; "Equipment" which includes not only required items but recommendations for additional gear; a special chapter covering laws for the individual state where the boat is registered; "Operating the Boat" which touches upon fueling procedures, pre-cruise safety checks, capacity and powering, rules of the road and docking and anchoring; and finally "Boating Aids" which describes various aids to navigation, weather signals, use of the compass and nautical charts.

In addition, there is a review and quiz presented at the end of the pamphlet, a conclusion that recommends further boating education through available instruction courses, such as those offered by the U. S. Power Squadrons, Coast Guard Auxiliary and various Red Cross chapters, and a glossary of nautical terms.

Ever try to find something in your tackle box at night without the aid of a flashlight? Normally, nine times out of ten, you wind up with the wrong object, prick your finger a couple of times on a hook and, finally, give up in disgust.

Here a flashlight comes in mighty handy but if you're fishing from a boat bear in mind there a few utility lights, not required by law, which the well equipped small craft

should have.

For example if you operate a small runabout equipped with a dash board, a small combination cigarette lighter-chart light attached to the dash provides just enough light to illuminate the interior of your tackle box. These operate off a 12-volt battery and are quite inexpensive, under \$6.

For after dark operation, particularly in buoyed channels or in areas marred by rock outcroppings, a powerful searchlight is of the utmost importance.

Some of these practical accessories are permanently mounted to the deck, that is, they swivel up and down, back and forth, but cannot be disengaged from the mounting. Others are equipped with a long, flexible cord, thus enabling them to be hand held.

I have, received as a Christmas gift, the former type of deck mounted searchlight but have found, from experience, that the latter, hand-held type, is much more practical.

Unless the object you are looking for, a buoy, rock or docking area, is far enough away generally the light beam has to be depressed to such an extent that part of it is cut off by the edge of the bow deck.

Incidentally, getting back to that cockpit light, I understand that truck positioning lights, available at all auto stores, work quite well. Their orange-yellow lenses cast a soft glow which does not hamper night vision and attracts fewer insects.

Also, if you require a brighter light, check your dealer for a sailboat "spreader floodlight." These are made to attach high in the rigging of a sailboat for night sail handling and make excellent cockpit lights for large outboards.

This may not apply to boating but it's certainly good news for the fisherman on the lower Susquehanna.

This involves plans to improve fishing facilities at the Holtwood hydro-electric plant, according to an announcement by Brentwood S. Shunk, PPL's Lancaster Community Service Manager.

Until now the company has permitted fishing from areas below the tail race however, now, work is underway which will open up new areas and provide better opportunities for the angler.

Brush is being cleared from the shoreline below the tail-race, walkways are being widened and railings installed at strategic areas. Proper lighting is planned along with sanitary facilities. To make this a complete fishing area, a fish cleaning station with stainless steel sinks and running water will be installed.

To add to the fishing opportunities, a new area on the plant property will be added. When the new facilities are complete early in the summer of 1967, fishermen will be permitted to fish from the stop-log area of the plant building. This is an area directly above the point in the tailrace where the water leaves the plant. In the past no fishing was permitted at this point because of safety reasons, but proper fencing and lighting is expected to make this an ideal fishing area.



ANGLER ARTIST DIES

Owen Penfield Fox, whose articles and illustrations were enjoyed by PENNSYLVANIA ANGLER readers for many years, passed away on October 7.

Mr. Fox, who resided in New Castle, was an artist with sensitive talents, and a true conservationist. Even after his retirement as official city forester, he continued as city parks consultant, nature writer, newspaper cartoonist and gardener. He was active in civic affairs and was county Boy Scout Commissioner for many years.

An art piece by Mr. Fox appears on the back cover of this issue.

The PENNSYLVANIA ANGLER extends its profound sympathy to his family.

AQUATIC PLANT BOOKLET AVAILABLE

Aquatic plants are associated with all aquatic areas such as lakes, ponds, and streams. As water developments continue to gain wide public interest, there will be a greater need to understand the function and management of aquatic plants which will be found at water impoundments both large and small, public and private.

Aquatic plants may be quite small and inconspicuous, or they may be the dominant feature of an aquatic environment. Plants contribute to the ecological relationships of water. Many fish and other pond organisms deposit eggs on plants, young fish find shelter in plant beds, and they seek food often associated with the aquatic plants. Some aquatic plants are favorite foods of waterfowl and other animals. However, excessive aquatic plant growth may conflict with certain water uses and the management objectives of the owners.

Special Circular 79, "Aquatic plants—management and control in Pennsylvania," offers helpful suggestions and information on the role of aquatic plants and the methods of managing aquatic environments to obtain the full benefits of water developments.

Pond and lake owners, lakeside cottage owners, and other people interested in management of aquatic areas may find the booklet helpful. It is well illustrated with photographs and line drawings to help identify aquatic plants. Owners can then pursue a course of action to manage their areas on the basis of the available scientific information. Copies are available from County Agricultural Extension offices throughout the Commonwealth.

Editor

PENNSYLVANIA ANGLER

I would like to pass on a little trick for clearing premises around and in ponds and lakes of water snakes.

Get a wire mesh two piece minnow trap with the one inch opening on each end and fasten a short chain or rope on same. submerge in water.

Snakes will enter and die from lack of air. We are having great success in getting rid of these pests.

Recently we placed a trap in a pond, and the following morning when the trap was removed we had five snakes—all dead.

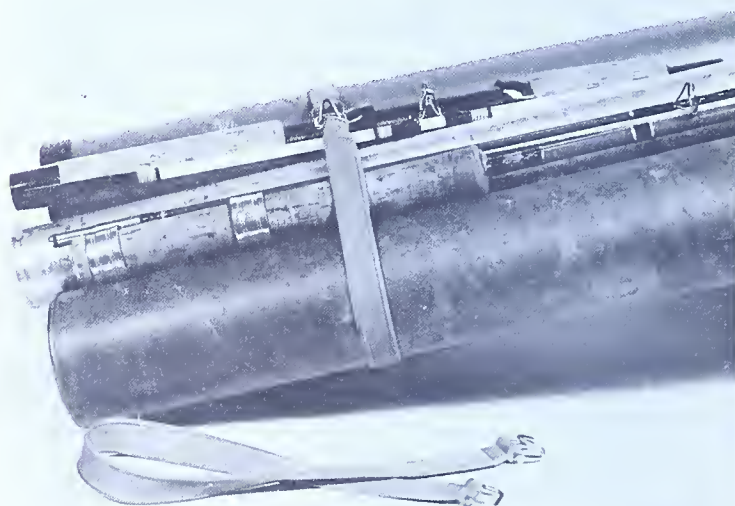
A. J. Sopko
4 Foster Ave., Seek
Coaldale, Pa.

MISSING YOUR ANGLER?

GOVERNMENT POST OFFICE ORDER EFFECTIVE JAN. 1, 1967 COMPELS US TO REMAKE AND REGROUP ALL OF THE THOUSANDS OF MAILING PLATES ON OUR MAILING LIST. WHILE WE EXPECT TO MEET THIS DEADLINE, THE CONFUSION DURING THE PAST MONTHS IN THIS EMERGENCY HAS REGRETFULLY CAUSED THE DELAY.

Tip-O'-The-Month

By C. BOYD PFEIFFER

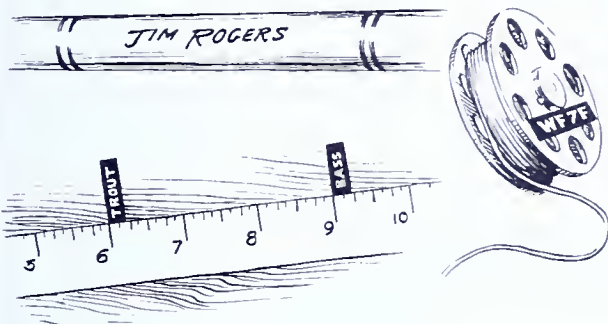


CARRYING RODS SAFELY

It's an old and well known fact that more rods are broken by car and house doors than are ever broken on fish. The moral, of course, is that you should devise as safe, orderly, and routine a manner as possible to transport rods. One of the best that I've found utilizes the elastic rubber straps used by children for carrying school books. They are cheap (about 10¢ each), strong, and have hooks to attach the ends together. One strap around each end of a bundle of rods will make carrying easy. If you carry your rods uncased, you may have to run the elastic strap around the rods twice to get the proper tension. With cased rods, or cased and uncased together, this should be unnecessary. It all depends upon the diameter of the bundle of rods that you have. And with that bundle of rods, strapped at both ends and securely under your arm, the chances are a whole lot less that you'll catch one in a car or house door.

SCHOOL'S OUT!

BY NED SMITH



LABEL IT

Winter time is a good time to go over your fishing tackle—cleaning it up, making repairs, and storing it properly until spring. It's also a good time to label it. Label what, and why?

Well, let's begin with your tackle box. It probably contains most of your lures, plus assorted sinkers, hooks, leaders, tools, a stringer, and perhaps an extra reel or line. You certainly wouldn't want to lose it, but if you did, would the finder know where to return it?

The solution is to attach a name and address label to the box. This can be done with a self-adhering plastic label made with one of the popular label makers. Or, if the box is made of suitable material, your name and address can be printed on a gummed label, stuck to the box, and protected with a coat or two of varnish or plastic spray from a pressure can. Rod cases can be labeled in the same way.

Your name can be printed on your fiber glass rods by first dulling the finish by sanding *lightly* with fine sandpaper, then lettering it with black ink on a light rod, or white ink on a dark one. Use a pen or small, pointed brush. Waterproof by applying several coats of plastic spray. If waterproof ink is used you can protect it with a coat of rod varnish or plastic spray.

If you have extra spools for your spinning or fly reels you can remember the sizes of the lines on each by sticking a label on the spool in a place where it won't interfere with the operation of the reel. If the spool is oily or greasy clean it first with gasoline, but keep the gasoline off your line.

I've seen trout fishermen measuring their fish on a ruler wired to the lids of their creels. You might want to cement a piece of a ruler, tape measure, or strip of paper with the inches marked off, to the lid of your tackle box. Additional marks can show the legal size limit for various kinds of fish. If you own a boat you might want to apply

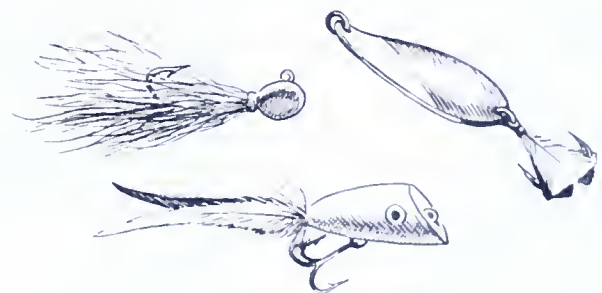
a ruler or other measuring device to its gunwhale, thwart, or brace, where fish can be measured before releasing them or stringing them up.



MID-WINTER BAIT

Going ice fishing for bluegills? One of the best known baits is the little grub found in goldenrod galls. Look for swellings on goldenrod stems. Some are nearly round; they contain a small fly larva. Others are long and tapered; they contain a caterpillar, and are the best. Break off the stems and keep them in a cool place until needed, then split the galls and remove the fat, little caterpillars.

You'll need fine hooks for such small, tender bait. Trout fly hooks are just right, but be sure your leaders are fine enough to go through their small eyes. Tapered leaders will work nicely.



OVERLOOKED MOTH BAIT

Glass jars with tight-fitting lids are excellent containers in which to store trout flies until you need them next spring. Drop in a few moth-killing dichloride pellets, just in case.

When moth-proofing your equipment, don't overlook those jigs, bass bugs, plugs, spoons, and spinners with skirts of hair or feathers. Moths like them, too. Caution: Don't put dichloride in plastic containers—it'll ruin them.



OWEN
PENFIELD
FOX

8083

